DOCUMENT RESUME

ED 290 134 CS 009 027

AUTHOR McNinch, George H., Ed.
TITLE Reading Teacher Education. Fourth Yearbook of the American Reading Forum.
INSTITUTION American Reading Forum.
PUB DATE 84
NOTE 124p.; For related documents, see CS 009 028-029.
PUB TYPE Collected Works - Conference Proceedings (021) -- Reports - Research/Technical (143) -- Viewpoints (120)

EDRS PRICE MF01/PC05 Plus Postage.
DESCRIPTORS Elementary Secondary Education; Higher Education; *Reading Instruction; Reading Research; *Reading Teachers; *Teacher Education

ABSTRACT

Issues in reading teacher education as well as other aspects of reading instruction are the focus of this yearbook. Titles of some of the articles and their authors are as follows: "Sampling Bias Limitations in Generalizations in Reporting Scores on Standardized and Criterion Referenced Reading Tests" (L. Carswell and W. White); "A Comparison of Social Science Textbook Readability and Students' Reading Levels" (B. Townsend and C. Wilkie); "Imaging Creative Reading/Writing Experiences" (O. Wielan); "Teacher Education of Community College Reading Educators" (B. Herrmann); "An Exploration of Preservice Teachers' Conceptual Change during Reading Methods Instruction" (S. Michelson and others); "Reading Achievement Trends of Fourth Grade Students" (B. Hayes); "Assessment of Preservice Teachers" (A. Mallery and others); "Preparation in Reading and Educator Certification" (R. Flippo and D. Hayes); "Toward Evolving a Profile of the 'Satisfied' Reading Professional" (R. Morgan and others); (14) "Effects of a Content Area Reading Class on Attitudes and Practices of Secondary Teachers" (V. Orlando); "Tab Item: Assessing Students' Application of Reading Theory" (C. Nichols and V. Orlando); "An Analytic Approach to Teaching Microcomputer Programming to Classroom Teachers" (D. Richgels); "The New Reading Circle" (G. Fortier and G. Manson); "Project Mafex" (M. Malone); "A Study to Determine the Capability of Teachers and to Predict the Reading Interest of Pupils" (H. Blythe and S. Carter); "The Professional Preparation of College Reading and Study Skills Specialists" (N. Stahl and others); "The Use of Cognitive and Metacognitive Strategies of Good and Poor Readers" (N. Kaufman and A. Randlett); "Assessing and Remediating the Reading and Writing Skills of Prospective Teachers" (L. Amspaugh); "Program Diversification in a College Developmental Reading Program" (D. Rosecrans); "Predicting and Evaluating Student Teachers' Performance in Reading Instruction" (T. Lovelace and others); "Helping Students Follow Written Directions" (W. Henk and G. King); "The Ghost of Computers Past, Present, and Future" (A. Prince); "Emergent Reading Levels" (W. Powell); "Mainstreaming and the Merging of Roles in Reading Instruction" (L. Tomlinson); "Teachers' Perceptions of Factors that Hinder Reading Instruction" (E. Searls and others); "Less than Words Can Say about the Certification of Reading Teachers" (W. Otto); "The Governance of Reading Education" (P. Duncan); "Plans of Action--Tools for Initiating Change in School Reading Programs" (J. Laffey and D. Kelly); "Toward a Core Curriculum for Reading Education" (A. Manzo);

"Survey of American Reading Educators" (L. Erickson and others); "Theoretical Aspects of Graduate Reading Foundations Courses" (M. Fairbanks and others); "Comprehension: The Forgotten Conclusions of the Training of Teachers of Reading" (J. Dinnan); "A Comparison Study of Background Knowledge of College Undergraduates" (M. Alvarez and others); "Bilingual Education" (S. Kossack). (SKC)

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READING TEACHER EDUCATION

FOURTH YEARBOOK OF THE AMERICAN READING FORUM

1984

Edited by
George H. McNinch
West Georgia College

CS009027

The ideas expressed in the papers published in the Yearbook are those of the authors and do not necessarily represent the viewpoints of the American Reading Forum

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Distributed by
THE AMERICAN READING FORUM
Aderhold Hall

University of Georgia
Athens, Georgia

PRINTED IN THE UNITED STATES OF AMERICA
BY
THOMASSON PRINTING AND OFFICE EQUIPMENT COMPANY, INC.
Carrollton, Georgia

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TABLE OF CONTENTS

Sampling Bias and Limitations in Generalizations in Reporting Scores on Standardized and Criterion Referenced Reading Texts.....1
Lorraine Carswell—South Park Independent School District/*William White*—Lamar University

A Comparison of Social Science Textbook Readability and Students' Reading Levels.....2
Brenda S. Townsend—Indiana University of Pennsylvania/*Carolyn J. Wilkie*—Indiana University of Pennsylvania

Imaging Creative Reading/Writing Experiences.....6
O. Paul Wielan—St. John's University

Teacher Education of Community College Reading Educators.....8
Beth Ann Herrmann—Hood College

An Investigation of Preservice Teachers' Attitudes Toward Reading.....10
Sarah D. Weidler—State College (PA) Area School District/*Eunice N. Askov*—The Pennsylvania State University

Reaction: An Investigation of Preservice Teachers' Attitudes Toward Reading.....13
Martha D. Collins—Louisiana State University/*John A. Mateja*—Arizona State University

An Exploration of Preservice Teachers' Conceptual Change During Reading Methods Instruction.....13
Sandra Michelsen—Michigan State University/*Gerald G. Duffy*—Michigan State University/*Jeannine Lasovage*—Michigan State University

Reading Achievement Trends of Fourth Grade Students Who Experienced Different Approaches to Kindergarten Reading Instructions.....16
Bernard L. Hayes—Utah State University

Assessment of Preservice Teachers in Six Pennsylvania Colleges and Universities.....23
Anne L. Mallery—Millersville University/*Dee Wallace*—St. Francis College/*Mary M. Dupuis*—The Pennsylvania State University

How Reading Field Experience Students View the Observation/Evaluation Process.....26
Donna E. Alvermann—University of Georgia/*Lynn C. Smith*—University of Georgia

Preparation in Reading and Educator Certification: Requirements, Needs, Issues.....27
Rona F. Flippo—University of Wisconsin-Parkside/*David A. Hayes*—University of Georgia

Toward Evolving a Profile of the "Satisfied" Reading Professional: Concomitance and Implications.....29
Raymond F. Morgan/Jane Warren Meeks/Franklin Ross Jones

Effects of a Content Area Reading Class on Attitudes and Practices of Secondary Teachers.....32
Vincent P. Orlando—Metropolitan State College

Tab Item: Assessing Students' Application of Reading Theory.....34
Carol Nichols—Metropolitan State College/*Vincent Orlando*—Metropolitan State College

Effectiveness Training for Elementary Teachers of Reading.....36
Beth Wise—McNeese State University/*Judy Shaver*—McNeese State University

Reaction: Effectiveness Training for Elementary Teachers of Reading.....39
Sidney E. Benton—North Georgia College

An Analytic Approach to Teaching Microcomputer Programing to Classroom Teachers.....39
Donald J. Richgels—Louisiana State University

The New Reading Circle: Programmer, Computer, User.....42
Gilles Fortier—University of Georgia/*George E. Mason*—University of Georgia

Project Mafex: Report on Preservice Field Experiences in Reading Education.....43
Mark R. Malone—Louisiana State University

A Study to Determine the Capability of Teachers and to Predict the Reading Interest of Pupils.....46
Hal T. Blythe—Southwest Texas State University/*Sylvia McCoy Carter*—University of Georgia

The Professional Preparation of College Reading and Study Skills Specialists.....47
Norman A. Stahl—Georgia State University/*Belita Gordon*—Georgia State University/*William G. Brozo*—Northern Illinois University

The Use of Cognitive and Metacognitive Strategies of Good and Poor Readers at the College Level.....50
Nancy J. Kaufman—University of Wisconsin-Stevens Point/*Alice L. Randlett*—University of Wisconsin-Stevens Point

Reading and Writing Skills of Prospective Teachers.....53
Chester Laine—University of Cincinnati

Assessing and Remediating the Reading and Writing Skills of Prospective Teachers: Underlying Assumptions and Questions.....56
Linda Amspaugh—University of Cincinnati

Program Diversification in a College Developmental Reading Program.....57
Deborah Rosecrans—University of Cincinnati

Predicting and Evaluating Student Teachers' Performance in Reading Instruction.....59
Terry Lovelace—University of Southwestern Louisiana/*Martha Collins*—Louisiana State University/*Roger DeSanti*—University of New Orleans

Helping Students Follow Written Directions.....62
William A. Henk—Pennsylvania State University, Capitol Campus/*Glynn Travis King*—University of Georgia

The Ghost of Computers Past, Present, and Future: Computer Use for Preservice-Inservice Reading Programs.....64
Amber T. Prince—Berry College

Emergent Reading Levels.....67
William R. Powell—University of Florida

Mainstreaming and the Merging of Roles in Reading Instruction.....69
Louise M. Tomlinson—University of Georgia

Teachers' Perceptions of Factors That Hinder Reading Instruction.....73
Evelyn F. Searls—University of South Florida/*Donald D. Neville*—University of South Florida/*Katherine Richmond*—University of South Florida

The Relationship of Graduate Education Students' Achievement in Educational Research to Their Reading Attitudes, Attitudes Toward Educational Research, GPAs and National Teacher Examinations.....76
Sidney E. Benton—North Georgia College/*Bob Jerrolds*—University of Georgia

Reaction Paper: "The Relationship of Graduate Education Students' Achievement in Educational Research to Their Reading Attitudes Toward Educational Research, GPAs, and National Teacher Examinations".....79
Eunice N. Askov—The Pennsylvania State University

Less Than Words Can Say About the Certification of Reading Teachers.....79
Wayne Otto—University of Wisconsin-Madison

The Governance of Reading Education: A Position Paper.....82
Patricia H. Duncan—Virginia Commonwealth University

Plans of Action—Tools for Initiating Change in School Reading Programs.....84
James L. Laffey—James Madison University/*Donna G. Kelly*—Rockingham County Schools

Toward a Core Curriculum for Reading Education.....89
Anthony V. Manzo—University of Missouri-Kansas City

A Comparison of Social Science Textbook Readability and Students' Reading Levels.....92
Brenda S. Townsend—Indiana University of Pennsylvania/*Carolyn J. Wilkie*—Indiana University of Pennsylvania

How Fare the Torchlighters? A Survey of American Reading Education.....96
Lawrence G. Erickson—West Virginia University/*Marilyn Fairbanks*—West Virginia University/*Betsy Hobbs*—West Virginia University/*Peggy Yi*—West Virginia University

Theoretical Aspects of Graduate Reading Foundations Courses.....99
Marilyn Fairbanks/Patricia K. Smith/Martin Saltz

Comprehension: The Forgotten Conclusions of the Training of Teachers of Reading.....104
James Dinnan—University of Georgia

A Comparison Study of Background Knowledge of College Undergraduates Enrolled in Teacher Education Classes and Developmental Reading Classes.....105
Marino C. Alvarez—Tennessee State University/*Victoria J. Risko*—Peabody College of Vanderbilt University/*Jerry Cooper*—Delta State University/*Ann Hall*—Delta State University

A Reaction to Discussions at the First General Session of the American Reading Forum, December 8, 1983, Sarasota, Florida. Political Action as a Reaction to "A Nation at Risk".....110
Roger De Santi

A Reaction to Discussions at the General Assembly of the American Reading Forum December 10, 1983, Sarasota, Florida. Development of Nonsexist Anaphoric Styles.....111
Roger De Santi—University of New Orleans

Bilingual Education: Confounding Challenges for Reading Educators.....111
Sharon Kossack—Florida International University-Bay Vista Campus

By-Laws of American Reading Forum, Inc., A Corporation Not for Profit.....114

SAMPLING BIAS AND LIMITATIONS IN GENERALIZATIONS IN REPORTING SCORES ON STANDARDIZED AND CRITERION REFERENCED READING TESTS

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Considerable research has examined possible bases for the educational failure of many economically deprived, inner city children. The issue of variation in language between standard English and other vernaculars was given national notice by the "deficit hypothesis" (Bereiter & Englemann, 1966; Deutsch, 1965). The proponents claimed that the speech of inner city deprived children was substandard English and was so deficient that it negatively effected communication and scholastic achievement. Many sociologists and a few linguists argued that the dialect of inner city, economically deprived, children was adequate (Bailey, 1969; Dillard, 1967; Labov, 1972). In studies of social dialects and identifiable vernaculars, the variable use of the past tense marker—*ed* and the third person singular present tense marker—*s*, and the copular system, were contrasted with standard English practices (Fasold, 1972; Wolframe, 1969). Stephensen, Reynolds, McClure, and Guthrie (1982) noted that Black English vernacular (BEV) speakers made significantly more errors with verbs on a cloze task than speakers of Standard English. Further, speakers of Black English vernacular had significantly more errors in selecting the appropriate temporal adverbial on the basis of tense. In main, differences in verbal systems determine specific differences in reading comprehension. Even differences in language between middle class teachers and economically deprived, inner city students have been demonstrated to be a major educational problem (Baratz, 1969; Wolfram & Fasold, 1964).

Beyond the characteristics of the different verbal systems of students tested for reading comprehension is the problem of reporting scores on standardized state tests of reading skills. Most scores are returned to school districts and to individual school buildings within the school district. No differences or classifications are made in scores by socioeconomic class, by deprivation, or by cultural bias. Mean scores by grade are reported for school buildings, and mean scores at each grade in one building are compared with mean scores in other buildings. Above all, no distinction is made between schools with moderate to severe economic deprivation and those with no children on federal lunch programs. No distinctions for cultural bias are ever made on reports to the daily press about scores in reading and mathematics.

This study assessed the hypothesis that a strict random sample of eighth grade students with economic deprivation, operationally defined as participating in the federal lunch program, would have significantly lower scores on reading comprehension on the California Achievement Test and the Degree of Reading Power (College Board, 1979) than non participants in the federal lunch program.

METHOD

SS were 120 middle school students in the eighth grade in a school district in Southest Texas. There were 76 males and 44 females in the stratified random sample; ages ranged from 12 to 14 years. The sample comprised 45% of the eighth grade students at an integrated public school. Based on the total number of children in the eighth grade, two groups were selected randomly: (a) 60 students were eighth graders who accepting free lunch subsidized by the federal government, and (b) 60 students who were enrolled in the eighth grade of the middle school who were not participants in federal assistance programs.

Each student was administered in group stituations the Vocabulary and Reading Comprehension portions of the California Achievement Test and the Degree of Reading Power (College Board, 1979). The former provided two raw scores on Vocabualry and Reading Comprehension and the latter one a total score in Reading Comprehension. Data were hand scored and analyzed.

RESULTS AND DISCUSSION

When the mean CAT-Vocabulary Test score of Group A (*M*, 19.3; SD, 5.1) was compared with the mean score of Group (*M*, 14.2; SD, 4.4) a *t* ratio was 2.83 ($p < .01$). Comparisons between Group A and B on the CAT Comprehension gave a *t* test of mean differences of 2.62 ($P < .05$). When mean test scores for Group A and B on the Degree of Reading Power were compared, a significant *t* of 2.92 ($P < .01$) was obtained.

Economic deprivation, defined operationally as participating in the free lunch program, was associated with lower scores on Vocabulary-CAT and Reading Comprehension in the Degree of Reading Power. Students who were randomly selected from eighth grade students on the federal lunch program scored significantly lower on standardized reading tests than did students who were not on the federal lunch program and assumed to be above the poverty guidelines.

When school districts administer standardized tests in reading to all students at various grades, mean scores are reported for a grade level or a school building's reading program. Comparisons between schools do not take into account the fact that some schools have a very high percentage of children with moderate to severe economic deprivation. There should be signs of great caution or sensitivity in reporting standardized reading scores between and among school programs. There is some support for the fact that economically deprived students in federal assistance programs score lower on standardized reading tests than do students who are not registered in the federal assistance lunch program.

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A COMPARISON OF SOCIAL SCIENCE TEXTBOOK READABILITY AND STUDENTS' READING LEVELS

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Developmental educators work arduously to diagnose and remediate the academic deficiencies of their students. Too often, however, the reference point of our efforts is a national, or some other presumedly valid, standard (e.g., grade "13" reading level), rather than the characteristics of the local general college population. As those responsible for initiating and evaluating programming for our students enrolled in developmental education courses, the researchers sought to learn more about some of the factors that affect success among the non-remedial student—the student with whom our developmental education students must compete in standard course work. Specifically, we wanted to identify the readability levels of textbooks used in introductory college courses, and the reading levels and typical study habits employed by the general college population. Lastly, we investigated whether these factors correlated with students' final grades.

The study consisted of two phases. Phase I assessed the readability levels of 51 primary textbooks used in introductory social science courses in seven disciplines. Three traditional formulas were used. The second phase investigated the relationship between the readability levels of students' texts, students' reading levels and study habits, and their final grades.

The study was conducted during the 1982-83 academic year at Indiana University of Pennsylvania, a public university located in central-western Pennsylvania. Its undergraduate population is approximately 11,000 students, including the Main campus and the two branch campuses. The average SAT score of entering freshmen at the Main campus is slightly higher than 1000, and the average at the branches is aproximately 800.

In order to fulfill the University's general education requirement, all students must complete a minimum of five introductory social science courses. This constitutes approximately 30% of the general education requirement. Courses fulfilling this requirement are offered through the following departments: History, Anthropology/Sociology, Criminology, Economics, Geography, Psychology and Political Science.

Social science courses were selected as the basis for this study for three reasons: they are the largest single group of courses in which the undergraduate population enrolls, they utilize the largest number of different textboks for introductory course work, and they were most likely to provide the greatest range of students representative of the university in general.

PHASE I: READABILITY

The purpose of this part of the study was to identify the readability levels of primary textbooks used in introductoy social science courses, using three traditional formulas. The differences in findings among the formulas is presented.

There is little literature available which reports the readability results of college-level texts. Kurzman (1974) analyzed 23 social science texts using the SMOG formula. He concluded that 60% were written at or above the 15th grade level. A study by McClellan (1971), utilizing the Dale-Chall formula, reported that 40% of the 20 texts from various content areas placed above the 16th grade level. In contrast to these results, Cline (1972-73) found that only nine of the 17 non-technical texts he assessed using the Dale-Chall formula placed at or above the college freshmen level. No literature was located which compared the three formulas used in this study.

METHOD

Procedure

To identify textbooks commonly used in introductory social science courses, 41 faculty members who were teaching introductory social science classes in the Fall 1982 semester were asked to provide the titles of the primary texts commonly used for the same or similar courses. Twenty-six of the faculty responded, and provided 53 different titles. Fifty-one of the texts, representing all content areas above, were available for readability analysis.

Three readability formulas, the Fry (1977), SMOG (1969) and Fog Index (1972) were used. Each is a two-factor formula based on a semantic variable (number of syllables or number of polysyllabic words) and a syntactic variable (sentence length). These formulas were selected because of their popularity of use and their ease of application. With reference to formulas such as these, Klare (1974-75) has stated that two-variable formulas are sufficient for most purposes, and that added variables generally add little predictive value in comparison to the application time involved.

While the authors' directions for each formula indicate that a sample of three passages per book is minimally sufficient for analysis, five passages from each text were included for the Fry and Fog analyses, and three passages per book were included for the SMOG. In each case, the same passages were selected for inclusion; however, those used for SMOG were longer, containing ten sentences each, rather than the 100-word passages needed for Fry and Fog. The passages were selected by dividing the texts into fifths, and selecting samples which contained essentially prose material with little or no numerical references, graphs or other textual aides as part of the body of the material.

RESULTS

The results of the readability assessment for each formula are available on request from the authors. The content areas and number of texts assessed for each include: Criminology (5); Economics (6); Geography (5); History (11); Sociology (13); Political Science (3), and Psychology (8).

Overall

The highest readability estimates were obtained using the Fog Index, which yielded a mean readability level of 15.5 for the 51 texts. The Fry and the SMOG yielded approximately equal means of 13.3 (Fry) and 13.4 (SMOG). Both the Fry and the Fog had ranges of 8+ grade levels, while the SMOG had a considerably more restricted range of 5 grade levels.

Content Areas

The Fog Index yielded a mean readability estimate of at least one grade level higher than those of the Fry and SMOG in six of the seven content areas, with Geography being the exception. In contrast, the Fry and SMOG produced approximately equal means (i.e., within one grade level) in all seven content areas. In computing a mean ranking for the three formulas for each content area, the economics texts had the lowest readability estimate overall, and the political science and sociology texts had the highest. Average sentence length appears to account for the higher grade level findings in these content areas.

Individual Texts

With reference to individual texts (Table 1), the Fog Index resulted in an average score of 2-2½ grade levels higher than the Fry and the SMOG. The Fog Index yielded results of more than one grade level higher than the Fry and the SMOG in approximately 75% of the cases. Geography was the only content area in which the Fog results were not consistently higher than the Fry and the SMOG.

The Fry and SMOG results were equal (within one grade level) for 55% of the individual texts. Fry resulted in higher scores than the SMOG in 25% of the cases, and SMOG resulted in higher scores than Fry in 20% of the texts. In comparing the Fry and the Smog, equal scores were found more frequently in the criminology, economics, geography and history texts, and least frequently in the sociology, political science and psychology texts. There was no discernible pattern of ranking on the SMOG/Fry for the last three content areas.

PHASE II: A COMPARISON OF READABILITY, READING ABILITY, STUDY HABITS AND FINAL GRADES

The second phase of this study was to compare the reading levels of the students enrolled in introductory social science classes with the readability levels of the primary texts used in those classes. An assessment of the relationship between students' study habits and reading levels, and their final grades, is also investigated.

McClellan (1971) investigated the reading ability of junior college students and the readability of assigned texts. Of the 358 students tested with the *Nelson-Denny Reading Test*, approximately one-third of the subjects scored in each of three grade ranges: below 10th grade, 10-12th grade, and 13 + grade. The readability of the texts used in the four social science courses in which the students were enrolled was determined by the Dale-Chall formula. In all cases the readability level of the texts was significantly higher than the mean reading levels of the students. She concluded that none of the texts used in the social science courses was appropriate for the students.

Cline (1972-73) conducted a similar study with 279 community college students. Using the Dale-Chall formula the mean readability level of 17 non-technical texts was found to be 13.0. The mean reading level of the students was 12.6, as measured by the *Nelson-Denny Reading Test*. Fifty-two percent of the students in all seventeen classes were found to have reading levels below the texts being used.

A study by Kurzman (1974) also found the readability of college textbooks to be higher, on the average, than the reading levels of the freshmen. The mean reading level of the 81 freshmen tested with the *Nelson-Denny Reading Test* was found to be 10.4, while the mean readability level of the 23 social science texts was found to be on the 14th grade level. The SMOG formula was used to determine readability level. Two reading specialists were asked to estimate the readability level of these texts using the following criteria: number of polysyllabic words, sentence complexity, style, density, typography, and organization for learning. The reading levels assigned to these texts by the reading specialists correlated with the finding of the SMOG formula (r = .69). The researcher concluded that the readability level of social science texts in most cases was many grade levels above the reading levels of the students who were to use them.

METHOD

Subjects

The subjects were 158 students enrolled in eight sections of four introductory social science courses at Indiana University of Pennsylvania. The courses included World Geography (GE

Table 1

Comparison of Ranking of Readability Estimates by Content Area

Formula Ranking	Number of Cases	Percent	CRIM (5)	ECON (6)	GEOG (5)	HIST (11)	SOC (13)	PSCI (3)	PSYCH (8)
Fry = SMOG*	28/51	55%	60%	67%	60%	82%	31%	33%	50%
Fry > SMOG	13/51	25%	40%	17%	20%	0%	46%	33%	25%
SMOG > Fry	10/51	20%	0%	17%	20%	18%	23%	33%	25%
Fog = Fry*	10/51	20%	0%	0%	40%	0%	38%	0%	38%
Fog > Fry	39/51	76%	100%	100%	40%	100%	62%	100%	50%
Fry > Fog	2/51	4%	0%	0%	20%	0%	0%	0%	13%
Fog = SMOG*	12/51	23%	20%	0%	60%	9%	31%	33%	25%
Fog > SMOG	38/51	75%	80%	100%	20%	91%	69%	67%	75%
SMOG > Fog	1/51	2%	0%	0%	20%	0%	0%	0%	0%

**EQUALS is defined as a difference of one grade level or less*

101), History of US & PA II (HI 104), General Administration of Justice (CR 101), and General Psychology (PC 101). Student participation was voluntary. About 50% of those students enrolled in the specific sections used took part in the study. The majority of the other students did not refuse to participate in the study—they were not present in class the day the research took place. With the exception of one class section, students did not have knowledge of their potential participation in the study until they arrived in class the day the testing took place.

The majority of the subjects were freshmen (55%). Thirty-four percent were upperclassmen and 11% were not classified in these traditional categories. Seventy-five percent of the students attended the Main campus and 25% attended the Armstrong County branch campus.

Materials

The comprehension section of the *Nelson-Denny Reading Test,* Form E (1981) was used to assess the reading levels of the subjects.

Students also completed a study habits questionnaire taken from Bragstad and Strumpt (1982). This 50-item questionnaire includes seven categories of study habits: concentration, remembering, organizing time, studying a text, listening and notetaking, test-taking and motivation.

The instructors submitted the final grades earned by the subjects at the conclusion of the Spring semester.

Procedures

Six of the social science faculty members who responded to the first phase of this study agreed to provide class time for the administration of the materials used in this study. A total of 8 class sections was used. These instructors used a primary text as required reading for the course.

In each class section the same procedure was followed. An explanation of the purposes (requirements and procedures) of the study was presented to each class. The students who volunteered to participate could receive their results and an interpretation of the same upon request.

The comprehension section of the *Nelson-Denny Reading Test,* Form E, was administered and scored according to the test directions. Students then completed the *Study Habits Questionnaire* by answering *yes* or *no* each item as an indication of whether the statements reflected their study habits for the courses they were in at the time of administration.

RESULTS

Reading Levels

The mean reading level of all participants was 15.1. When year in school is taken into consideration, the upperclassmen averaged 16.2, the freshmen average 15.1, and those students with an unclassified status averaged 14.2.

The reading levels ranged from 4.9 (2 students) to 16.5 + (63 students) for all students tested. Eighty percent of the total group scored at or above the college level (13-16.5 +). This figure represents 77% of the freshmen, 89% of the upperclassmen, and 72% of the unclassified students. There was 11% of the total group who scored below the 11.0 reading level and 5% who scored below the 8.0 reading level.

Readability and Reading Levels

In most cases the mean reading level of each class section approximated or exceeded the readability level of the primary textbook as identified by the three formulas used in this study.

In terms of the Fry estimate, students' reading levels exceeded the textbook readability level in 48% of the cases and approximated the readability level in 16% of the cases. Thirty-seven percent of the students are reading below the textbook readability level identified by the Fry estimate.

With respect to the SMOG formula, 63% of the students are reading above the readability level of the textbook, 8% are reading at about the same level as the readability, and 28% are reading below the readability level indicated by this formula.

Results based on the Fog Index are less clearly reported on a parallel basis because for three of the five textboks the readability level approximates the maximum reading level obtainable on the reading test. Thus, whether some students' reading levels exceed the readability levels of those specific textbooks cannot be determined. The results do show that 48% of the students have reading scores that are equal to or above the readability level of the textbook used in their class. Fifty-two percent of the students received scores below the readability level as assessed by the Fog Index.

Correlations were computed for each of the three formulas for reading level and readability level of the five texts used. None of the three correlations, which ranged from -0.10 to +0.14, was significant at the .05 level.

Study Habits and Reading Levels

The results of the study habits questionnaire were reported in terms of strengths (six or seven statements in agreement with predetermined answers), neutrals (three to five statements in agreement), and weaknesses (zero to two statements in agreement). The answers were based on efficient study habits recommended in texts on study habits and techniques (Pauk, 1974; Shepherd, 1979).

The total sample showed a mean number of strengths as 3.77, neutrals as 2.92, and weaknesses as .32, based on a total of seven categories. This pattern of the mean was repeated in all but one class section, where the number of categories designated as neutral exceeded those indicated as strengths.

The rank order of the study habits categories by the number of strengths were: motivation, listening/notetaking, remembering, test-taking, organizing time, concentration, and studying a chapter. In the four classes comprised of 33-50% freshmen, there was not a significant variation between the number of strengths, neutrals or weaknesses indicated by freshmen versus the upperclassmen. For example, in one section of Geography, 40% of the students were freshmen and 43% of the total number of strengths were reported by freshmen. Other class sections were predominately freshmen or upperclassmen, but did not represent a proportional mix of responses according to student classification.

The correlations of reading levels with the number of strengths, neutrals and weaknesses of study habits, respectively, ranged from -0.49 to +0.61 for the individual classes. Generally, there was a higher correlation between the number of strengths and reading levels, except for two class sections where the neutral categories showed a higher correlation. For the total group significant correlations at the .01 level were found for the number of strength categories and reading levels (0.25) and the number of neutral categories and reading levels ((-0.32).

Final Grades

The final grade distribution of the 158 participants is as follows: *A*-30 (19.0%); *B*-39 (24.7%); *C*-59 (37.3%) *D*-16 (10.1%) *F*-9 (5.7%); *W*/I-4 (2.5%). With the exception of one class, the grades are representative of the final grade distribution of the total student enrollment in these classes, according to the instructors.

Reading Levels/Final Grades: Determination of the correlation between reading levels and final grades was based on the number correct on the comprehension section of the *Nelson-Denny Reading Test*, Form E. For the purpose of analysis, courses taught by the same instructor are grouped together.

A moderate overall correlation of +0.48 was obtained; however, the correlations for the separate instructor's classes show a considerable range. For two of the five course groupings, there is little relationship between students' reading levels and their final grades — HI 104 (+0.15) and GE 101-A (+0.22). Moderate correlations of +0.40 and +0.44 were obtained for the PC 101 B, C and the PC 101-A classes respectively, and a relatively strong correlation of +0.71 was obtained for the GE 101-B class. (Note: CR 101 was excluded from this analysis because there was no variation in the students' final grades. This class included 10 subjects.)

Table 2, which presents the final grade distribution by reading level groupings, shows the general trend that students with higher reading levels received higher grades, and that students with lower reading levels received lower grades. The difference between the mean GPA's of those in the highest reading level category (16.5+) and those in the lowest reading level category (below 10.0) is nearly two grade levels on a four-point scale (i.e., 2.95 versus 1.38). Intermediate reading levels show a corresponding increase in mean grades as the reading levels increase.

Table 2

Composite Final Grade Distribution by Reading Level Category

Final Grade	Reading Level Category 16.5+	16.5-15.1	14.7-13.1	12.4-10.1	below 10.0
A	23	5	1	1	0
B	16	9	9	2	3
C	18	18	14	7	3
D	4	2	3	4	3
F	0	1	1	3	4
W/I	1	1	1	1	0
N	62	36	29	18	13
Mean QPA	2.95	2.51	2.21	1.65	1.38

Study Habits/Final Grades: Correlations were computed per class for each study habits category (Strengths/Neutrals/-Weaknesses) and final grades. Only two moderately high correlations were obtained, and these were for the same class, GE 101-A. These were statistically significant correlations ($p < .01$) of +0.63 between study habits-strengths/final grades and -0.71 between study habits-weaknesses/final grades. This indicates that, for this particular class, students with the highest number of reported study habits strengths received the highest grades, while those with the highest number of study habits weaknesses received the lowest grades. This finding was not true of the other classes. For these, a mixed pattern was found between the number of study habits strengths and the final grades students received. The correlations in the remaining classes ranged from -0.26 to +0.28, indicating little relationship between the number of positive study habits utilized and the final grades received.

DISCUSSION AND CONCLUSIONS

Readability

The three-formula readability analysis indicated that, on the average, the 51 social science texts are written at the low-to-mid college level. The Fog Index yielded consistently higher results than the Fry and the SMOG formulas. The differences averaged 2-2½ grade levels for all content areas except Geography.

The Fry and SMOG formulas yielded essentially equal results, within one grade level, for 55% of the texts, particularly within the content areas of geography, economics, history and criminology. These two formulas yielded unequal results for many of the political science, psychology and sociology texts; however, there was no consistent pattern of rankings between the two formulas for these texts.

Reading Level/Readability

The mean reading level was 15.1, with 80% of the students placing at or above the college level. Forty percent of the participants scored at the top of the reading level scale. The upperclassmen placed one grade level above the fresmen, and two grade levels above students in the unclassified category.

While the mean reading level of the participants is relatively high, and while the overall readability levels of all texts surveyed (51) was in the low-to-mid college level, those texts actually used by the participants in the study have readability levels which are above as many as one-third of the students. According to the Fry formula, approximately 33% of the students have reading levels two or more grade levels below the readability levels of their social science texts. With respect to the SMOG formula, 20% of the students' reading levels are two or more grade levels below their texts. In contrast, nearly 50% of the students' reading levels are at least two grade levels below the textbook readability levels assessed by the Fog Index.

Study Habits

Students generally showed a high number of strengths in regard to study habits—3.8/7.0. This could be attributed to the information gathered from the instructors, since all had indicated that they provide instruction on how to study for their courses. The data taken from the study habits questionnaire is self-report data; however, the fact that participation in the study was completely voluntary, with results being reported only the student, should have considerably deterred the reporting of false data. Even if the validity of the data about actual study habits were questioned, the information still signifies the amount of knowledge that the students possess about efficient study habits. Interestingly, though, there was no significant difference between the study habits reported by the freshmen and those reported by the upperclassmen.

Final Grades

The researchers expected to find significant correlations between students' final grades and their reading levels and sudy habits. A moderate correlation of +0.48 ($p < .01$) was found between reading levels and final grades; however, the analysis per class resulted in a considerable range of results— +0.15 to +0.71. This indicates that students' reading levels and their final grades are strongly related in some classes and not strongly related in others. There was a general trend, evident when reading levels were categorized, that showed an overall positive relationship between reading levels and final grades.

In general, there was no discernible realtionship found between study habits and final grades. The high number of strengths reported in comparison to the low number of

weaknesses most likely contributed to the low correlational finding.

Several factors may have affected the results of this study. There was a disproportionate number of students who placed at the top of the reading level scale, thus affecting the variance. Second, the fact that study habits is self-report data may have resulted in some biased data. Third, the generalizability of results is limited due to participation by only 50% of the potential sample population, even though the instructors indicated that the participants and the non-participants were similar in academic performance.

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IMAGING CREATIVE READING/WRITING EXPERIENCES

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For many years the left and right lobes of the brain have been dichotomized as the major and minor hemispheres, respectively. However, only recently has research addressed the specialized functions, processes, and modes of consciousness of each brain half. It has been learned that the left hemisphere is predominantly involved with logical analytic thinking, most notably in the areas of verbal and mathematical functioning. Due to its linear mode of operation, it is that section of the brain responsible for speech and language related skills such as reading and writing. In contrast, the right hemisphere is accountable for intuition, orientation in space, artistic endeavor, creativity, and body image. Being holistic and relational rather than analytic and sequential, it processes information diffusely and simultaneously. Because culturation favors the abstractions conveyed in language, logic, and mathematics and directs itself to the "3 Rs," most conventional education has been devoted to the left hemisphere of the brain. An emphasis on this curriculum of practical learning may reflect American values, but it tends to overdevelop left hemisphere thinking to the detriment of the whole person. Consequently, by teaching to one-half of the brain, pedagogy fails to tap and train the mind's full potential. The major objective of this paper is to explore the implications and applications of brain research for reading and writing instruction. After a discussion of left and right brain processing, several strategies to stimulate imaginative language experience stories will be presented. Imaging as a right brain mode to enhance the verbal left brain mode will be highlighted.

HUMAN BRAIN SPECIALIZATION

An infant's mind is essentially unified and holistic, grounded in the immediacy of experience and concrete reality (Sylwester, 1982). However, during the preschool years hemispheric dominance in the form of specialization of thought processes begins. Specific functions and abilities become associated primarily with either the left or right hemisphere of the brain. This lateral specialization, and brain matuation in general, occurs at different rates in males and females. In boys, specialization is completed at about the age of six, but in girls, this phenomenon has not taken place until the age of 13. As a result, most boys process language activity in their left hemisphere as they commence school, while girls possess the distinct advantage of being able to utilize both hemispheres. Additionally, Epstein (1979) has posted the theory that the brain develops in four 4-year cycles, in which periods of rapid growth are followed by the slower integration of that growth into the cognitive system. In most normal children, growth accelerates during a six-month period some time between the ages of 2-4, 6-8, 10-12, and 14-16. Interestingly, girls' growth tends to occur earlier than boys within each two-year period. These neurological differences may help to account for the frequently noted greater incidence of language and reading problems that boys experience in the lower grades.

When brain specilization appears, the left hemisphere is the dominant language center for the majority of the population. The left brain names things, places, letters, numbers, and words (Sperry, 1968). It can deduce logical, functional relations among objects, and through its temporal and serial processing, decode phonemic speech sounds and analyze the semantic content of words (Levy and Trevarthen, 1976; Levy, 1974). Since rational and abstract thought processes become centered here, the left hemisphere is often referred to as the rational mind. When the brain is confronted by a novel problem, the left lobe scrutinizes the input sequentially, abstracts the relevant details, and then associates verbal symbols to produce a solution. In short, the left hemisphere of the brain is our mediated intellect (Ornstein, 1977).

Conversely, the right hemisphere is frequently called the metaphoric mind (Samples, 1976). Processing simultaneously all the received data, it views the phenomena as a complex whole. The right hemisphere is superior in managing visual-spatial tasks such as arranging blocks to match a design or drawing cubes (Gazzaniga, 1977). It has the ability to recognize people, places, and things on the basis of their appearance (Levy, Trevarthen & Sperry, 1972), it aids in realizing and finding our place in familiar surroundings (Nebes, 1977), it processes emotional information (Sackheim, 1978), and it holds our secret hopes, dreams, and desires (LeDoux, Wilson & Gazzaniga, 1977). The right hemisphere also processes space relationships and patterns. The child who exhibits difficulty learning how to read words via a left hemisphere, sequential phonetic approach may improve if both hemispheres are actively involved in the reading process. The "look-say" or "whole word" ap-

proach to beginning reading instruction focuses on the total spatial characteristics of a word - attributes which are generally processed by the right hemisphere. In fact, for some children, most notably those who may be classified as gifted, talented or disabled in reading and writing skills, right hemisphere processing may be the predominate cognitive style. Thus, nonverbal visual-spatial methods should be incorporated into their reading and writing training if success is to be met. The education of these students who would benefit from holistic and experientially-based approaches to literacy appears to be sorely neglected within the context of present-day academic systems (Stahl-Gemake, Wielan & Sinatra, 1982).

STRATEGIES TO INVOLVE THE RIGHT BRAIN

Recent brain discoveries suggest that the most productive teaching and learning activities combine the tremendous power of both hemispheres. Such time-honored instructional practices as show and tell, constructing something and then describing it, drawing a picture of a field trip remembrance, and working with a map, flowchart, or time line are examples of school experiences that activate and integrate the entire brain. In the fields of reading and writing visuospatial, pictorial, and visualizing techniques require students to generate imagery and should influence the ability to comprehend more effectively. Specifically, three ways to engage the right brain's strength in holistic conceptualization are semantic webs, metaphor themes, and personal shields. In each technique written discourse is presented in configurational patterns to stimulate and organize language experience stories and poetry.

Webs are configurational graphs or diagrams that depict the relationships of parts to wholes and wholes to parts. These visual-spatial networks are composed of nodes and emanating lines that represent the connections among ideas in the mind and pictorially display our schemata. Within the past few years, webs have been used to develop reading comprehension by helping students visualize interactions among story characters, relationships among story ideas, and developments of plot (Cleland, 1981; Freedman and Reynolds, 1980). In addition, Pearson and Johnson (1978) proposed that webs be constructed to expand vocabulary and knowledge of concepts. Because the linking network of nodes and lines portrays relationships among old and new pieces of information, they believed this device demonstrated to students how new information fits into their existing cognitive framework. Therefore, newly acquired learning is meaningfully unified with previous experiences.

For example, a descriptive web can be utilized with students to evaluate and appreciate sensory imagery in poetry and to create their own poems. Color poems are interesting, enjoyable, and effective to use in this vein since their imagery is experientially relevant and common to young people. *Hailstone and Halibut Bones* (1969) by Mary O'Neil presents an exemplary collection of color poems that can be employed as springboards for original compositions. One of the poems, such as "What Is Orange?", is initially read to the class in order to introduce vocabulary and rhythmic phrase reading. Then, after copies of the poem have been distributed, the students are directed to read silently to identify the images of sight, sound, smell, taste, touch, and emotions that the author associated with the color orange. A web outline is next developed with the students' collective thoughts. Within the central node is written the word "orange" around which are drawn six smaller nodes containing the five sense and one feeling words. Imagistic adjectives and nouns from the poem are then placed beside the appropriate node. Thus, emanating from the "sound" node might be the words "tango," "noisy," and "crackling;" from the "sight" node "fire," "bright," "sunset," and "crayons."

On the following day, students are informed that they will develop a web to focus on personal images and associations and that small groups or individual poems will be written from the connections diagrammed in the web. After a new color has been selected words that evoke vivid sensory and emotional images are volunteered. When the web is satisfactorily completed with a variety of options, poems are composed form the model thereby offering students an advanced organizer for their discourse. One third grade class created this poem for the color yellow:

What is Yellow

Yellow is a sunny day,
That warms you in every way.
Yellow is a beautiful sight.
Yellow is a shiny light.
It is a blooming flower
During a happy hour.
Yellow is a millionaire
Or the color of someone's hair.
A bird, a bee,
Or a lemon tree
A butterfly with wings of yellow
A banana that is long and mellow.
Yellow is a warning that tells you
To go slow.
Pac Man on a video.
Yellow is a cheerful color
That is like no other.

Similes and metaphors are analogies that conjure up creative and interesting images of similarity in the mind. The process of analogic thinking - a right brain activity - requires that a common trait in objects is perceived and that the objects be related according to this trait. In many cases, the result may be a novel way of looking at things. When being instructed in the understanding of figurative language, students are first asked to think of an animal that they believe they are like and to complete the following form: I am like a _____ because I am _____, I can _____ and I feel _____. A teacher presented example should precede this writing to illustrate expectations: I am like a *cat* because I am *clever*, I can *run fast*, and I feel *curious*. This statement is then reduced to a metaphor by deleting the word *like* and compressing the three *because* clauses into a terse comparison:

I am a cat; clever, fast, and curious.

This strategy can be expanded to a more sophisticated level in the content areas. After brain-storming on the general topic of "math," one seventh grade class expressed both their positive and negative feelings about the subject matter at hand in the following metaphor theme:

Math is the world; it is always going round.
Math is a wall; you just can't go through it.
Math is a maze; you only get out on the right path.
Math is a game; you win some, you lose some.
Math is an aquarium; something is always fishy.
Math is a balloon; it can be popped.
Math is a plant; it just grows and grows.
Math is a stamp; you have to lick it to stick it.
Math is a bowl of cherries already eaten; the pits.

Math is LOTTO; you gotta be in it to win it.
Math is your best buddy; always there, when you need him.
Math is Clint Eastwood; the good, the bad, and the ugly.

A third holistic approach to reading and writing is the construction of an autobiographical shield. This configurational technique, adapted from the model by Simon, Howe, and Kirschenbaum (1978), invites students to draw pictures to represent events in their lives. The viability of the shield strategy is that it makes concrete the images of past and future experiences while providing visual structure for the more abstract task of writing. To begin this lesson students are requested to fill a piece of construction paper wth an outline of a shield that would resemble medieval armor. The shield is next divided into six equal cells in which are drawn pictures that symbolize the required information. Starting in the top, left-hand corner and moving from left to right down the page students are instructed to nonverbally portray the following situations: 1) You as a youngster: something you remember, 2) You and your family: things you do together, 3) You by yourself: things you like to do alone, 4) You at your best: something you do very well, 5) You and your future: you in 15 years, 6) The idealized you: the way you want people to think about you. Stories are subsequently written to describe and elaborate on the pictures in the shield. Depending upon the skills level of the students, the length of each story may range from a few sentences to several pages. The students' language will reflect their stages of cognitive development and present insights into their value systems. As a culminating activity, the shield and accompanying writings can be bound into a storybook and entitled "My Life," "My Personal Book," or "Me and My World."

The purpose of this paper was to present theoretical information and practical methods for reading and writing which integrate the processing power of both hemispheres of the brain. However, all aspects of the language arts can be related to what we see and to what we do in our verbal and nonverbal worlds. Specific right brain activities in which students are involved in meaningful experiences prior to or along with the skills of listening, speaking, reading, and writing should be incorporated into the existent left hemisphere bound school curriculum. Each nonverbal, holistic strategy can be expanded to include as many facets of the language arts as the imaginative and flexible teacher chooses. Only then, will we cease educating one hemisphere of the brain while leaving half of an individual's intellectual capabilities unschooled.

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TEACHER EDUCATION OF COMMUNITY COLLEGE READING EDUCATORS

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Since the early 1970's, there has been a steady increase in the number of students entering community colleges with reading difficulties. Most of these students are not cognizant of their abilities in relation to the academic standards of the college and do not have realistic expectations of what the college can offer them (Kahn, 1974). Consequently, many of these students are required or encouraged to enroll in a reading improvement course. Reading educators in these courses are responsible for providing instruction relevant to the needs of students whose reading difficulties are affecting their abilities to achieve desired occupational and educational objectives (Ahrendt, 1975).

A study was conducted to investigate a reading improvement course in one community college to determine whether instruction provided addressed reading deficiencies as perceived by the teacher and students (Herrmann, 1983). This paper describes implications the results of the study have for the teacher education of community college reading educators.

Background

Two assumptions are generally made about community college reading improvement courses. First, it is assumed that the teacher's and students' notions of reading needs are similar and that both views influence the instruction that is provided in the reading improvement course. Second, it is assumed that as a result of this agreement, students engage in relevant, meaningful learning experiences that enable them to make continuous progress toward reading improvement and desired objectives. The critical question then is: does this happen?

Herrmann's (1983) study was designed to determine (a) whether or not the community college reading educator and the students had similar perceptions of reading deficiencies, and (b) the extent to which instruction was directed toward deficiencies as perceived by the teacher and students. A series of interviews was conducted to determine the teacher's and students' perceptions of reading skill deficiencies. Fifty-two hours of systematic observations were completed to determine the focus of instruction. Particular attention was given to the reading skills related to the materials and activities provided for each student.

Results show that the teacher and the students had similar perceptions of reading skill deficiencies, but the instruction provided did not address the reading needs as perceived by the teacher or the students. The teacher in this study did not have trouble identifying the students' needs but she did have trouble matching instruction to the identified needs. Despite the teacher's conscious awareness of the specific skill needs described by the students, she frequently provided materials and activities emphasizing skills other than those that she and the students both perceived as requiring attention. She did not plan her classroom instruction in terms of a logical, objectives-driven model, nor did she spend much time thinking about the students' perceived needs. Rather, the teacher conducted instruction by moving students through available materials that would fill up the students' instructional time, emphasizing answers rather than understanding, by focusing on activities rather than outcomes, and by stressing procedures rather than strategies.

These findings suggest that the independent model of instruction was the driving force in this community college reading improvement class. Students were expected to work independently on assigned materials and activities with little teacher guidance or assistance. As a result, the students became more concerned with completing materials and activities to satisfy set course requirements than with improving their perceived reading deficiencies. To the extent that this classroom is typical of community college reading improvement courses, the results of this study have implications for the teacher education of community college reading educators.

Implications for Teacher Education

Teacher education programs must first prepare community college reading educators to deal with two important classroom realities which add complexity to the instructional situation: (a) inadequate materials, and (b) students with varying backgrounds and needs. Most of the materials employed in community college reading improvement courses are considered trivial by many students because the information does not offer them a readily seen direct relationship to their lives and the world. In fact, some material may even contradict much of what the students experience in the real world. Many remedial programs employ materials which are writtten for elementary and secondary students and do not hold the interest of the high-risk, marginal, or remedial community college student. Nevertheless, many community college reading educators are pressured to employ these expensive (but inadequate) materials in their instructional programs.

Community college reading educators must also respond to students with varying backgrounds and needs. Some students already have experienced a number of unsuccessful attempts to improve their reading proficiencies. As a result, they are fearful of new experiences associated with the reading improvement course and/or have a negative attitude toward the course before it even begins. Some students have returned to school after a long absence and are experiencing great anxiety concerning their ability and/or place in the college. These students, who have been away from an academic environment, generally have a difficult time adjusting to new situations (Lenning & Hanson, 1977). Still other students enrolled in a reading improvement course expect to reach reading goals quickly (Lamorella, et al., 1982). They view time spent in a reading improvement course as a necessary, but not very attractive, step toward attainment of desired objectives and are quite impatient with the relatively small and slow steps associated with reading improvement.

Under the constraints of limited and/or inadequate resources, community college reading educators are pressured by students, peers, and/or supervisors to help these students significantly improve their reading ability so that they may succeed in subsequent community college courses. Teacher education programs must provide these teachers with realistic expectations regarding the teaching of reading in community colleges and then train them to control the complexities that are a part of the environment.

A second implication for teacher education of community college reading educators is relative to the way in which many of these teachers attempt to control the complexities of their classrooms. In the face of classroom realities, many of these teachers abandon recommended procedures and theoretical conceptions and rely solely on the independent model of instruction. They operate on a "learn-as-you-go" or "on-the-job-training" basis, governed by available materials and the activity flow which is essential to the independent model. Teacher education programs must help community college reading educators understand that the independent model of instruction is ineffective in attending to the reading needs of their students, that there is more to effective reading instruction than simply moving students through materials (Duffy & Roehler, 1982; Good, 1983; Rosenshine, 1983; Roehler & Duffy, 1984; Pearson, 1984). Research findings about effective instruction must be communicated to teachers of reading in community colleges and incorporated into the training of these teachers.

Conclusion

The findings of this study suggest that teacher education programs are failing in their efforts to train community college reading educators. Consequently, many of these teachers rely solely on the independent model of instruction which enables them to maintain an activity flow, but is ineffective in meeting the reading needs of their students. Students, whose reading needs are not met, become bored or frustrated. They become more interested in completing set course requirements than in improving their reading abilities. Some students become so frustrated that they withdraw from the reading course or even the college. As a consequence of this trend, a number of community college students do not achieve their occupational or educational objectives.

If this is true, then the implications for teacher education programs are clear. Teacher education programs must help community college reading educators learn to control classroom complexities and develop the expertise needed to provide effective reading instruction for their students, particularly if the number of students entering community colleges with reading difficulties continues to increase.

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AN INVESTIGATION OF PRESERVICE TEACHERS' ATTITUDES TOWARD READING

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Elliott (1983) suggests that the study of attitudes preservice teachers hold toward reading is important. Teacher educators need to be aware of their students' attitudes and perhaps try to change negative attitudes before the student becomes a full-fledged teacher. Hence, Elliott developed an attitude scale with three subscales to be used diagnostically.

While questions have been raised about Eliott's scale (Benton, 1983), the research is nevertheless interesting since so little has been published on the topic of teachers' attitudes toward reading, especially at the elementary school level.

The research reveals mixed findings. Mueller (1973), assessing attitudes of 41 undergraduate and graduate students enrolled in elementary reading methods courses, concluded about her sample that they "value reading mildly in their lives, both professionally and personally (p. 205)." When asked to rank reading with other curriculum areas, 40 percent of the undergraduate and 24 percent of the graduate students ranked it third or lower in importance. When asked how they spend their time not on the job, 40 percent of both groups ranked reading as fourth or lower on a list of seven activities.

On the other hand, Benton & Jerrolds (1983), using Elliott's instrument with graduate students enrolled in an educational research course, concluded that their subjects had fairly positive attitudes toward reading which correlated positively with course achievement, graduate Grade Point Average (GPA), and Composite National Teachers Examination (NTE).

Mikulecky & Ribovich (1977) also found fairly positive attitudes among 149 undergraduate and graduate students (elementary and secondary) enrolled in developmental and remedial reading courses at the University of Wisconsin. This result was in contrast to some earlier literature, including Mueller's (1973), on reading attitudes and habits cited by Mikulecky & Ribovich. In studying the relationships among variables, Mikulecky & Ribovich found that attitudes, as assessed by two of the three instruments used in their study, correlated positively with the vocabulary, comprehension, and total on the Nelson-Denny Reading Test. Interestingly, however, the final course grade did not correlate significantly with attitudes toward reading. They conclude that "no definitive statement about reading attitudes of teachers can be made because the field is lacking in substantial criteria against which teachers' performance on a particular attitude measure can be judged (p. 579)."

This brief survey of related research suggests that the study of preservice teachers' attitudes may indeed be of interest, especially since teachers are in a position to influence children's attitudes directly through instructional activities and indirectly through modeling. We need to know more about preservice teachers' attitudes, and how they may relate to other variables. Elliott (1983) suggests that studies of the relationships between attitudes towrd reading and Scholastic Aptitude Test (SAT) scores as well as between attitudes and GPA are of importance. Through these we learn more about attitudes and factors that affect attitudes. In an attempt to study these relationships, this study was undertaken.

The intent of the present study, therefore, was not to look at the question of whether preservice teachers hold positive or negative attitudes toward reading since external criteria are not available for judging what is positive or negative. Instead, the intent was to focus on the relationships between attitudes toward reading and other related variables. Specifically we wondered whether change in attitudes during a reading methods course would be related to other variables.

METHODS

Instrumentation

The instrument selected for measuring attitudes for reading was an adaptation of an inventory used to measure attitudes toward mathematics (Suydam & Trueblood), 1974; Fenell & Trueblood, 1977). The instrument, shown in the Appendix, had been used for the past five years at The Pennsylvania State University in the elementary reading methods course. An alpha reliability coefficient of .95 was obtained for the 26-item Likert scale. Concurrent validity was demonstrated by correlating the results of this inventory with Elliott's (1983) which yielded a satisfactory validity coefficient (.80).

The instrument has a range of scores from 26 to 130. Since choice *A*, the most positive response, was scored with a 1 (while choice *E*, the most negative, was awarded a 5), the lower the score, the more positive the attitudes. The scoring system was reversed on the negative items (#1, 4, 5, 7, 9, 10, 11, 14, 17, 19, 21, 23, 26).

Subjects

The subjects of this study were elementary and special education majors at Penn State University enrolled in the elementary reading methods course usually taken during the junior or senior year. The subjects (N = 290) included those with complete data who were enrolled in the ten-week course during one of the six terms during the 1980-81 and 1981-82 school years. Over the two year period the students' attitudes toward reading were assessed both at the beginning and the conclusion of the basic reading methods course.

Nine variables were used as the independent variables to determine their role in predicting the dependent variable, attitude change. The nine variables included: year and term each stu-

dent took the basic reading course, attitude pretest (Attpre) score, attitude posttest (Attpost) score, SAT verbal score, SAT math score, SAT total score, GPA, major, and the grade in the basic reading course. Correlation coefficients were used to provide information regarding relationships between variables. Downward regression was used to determine predictor variables of attitude changes, and analysis of variance was used to determine differences among several subgroups.

RESULTS

A correlated T-Test was used to determine if there was a significant difference between Attpre scores and Attpost scores. No difference was found ($T = 1.13$; $df = 289$; $p = .26$); however, there was a one point change in a negative direction in the means from pre to post indicating a slight shift toward a better atitude. (A negative change indicates a more positive attitude since the lower the attitude score the better the attitude.)

Table 1 presents all possible Pearson Product Moment correlations between all variables. Keep in mind that a negative correlation between any variable and the attitude score or change score indicates a positive relationship.

From Table 1, a number of interesting correlations can be noted, especially those related to Change. Grade and change (-.13) were significantly related in a negative direction indicating that the higher the grade in the reading course the more the attitude improved over the term. SAT verbal scores were also significantly related to Change (-.15) in a negative direction indicating a positive relationship between SAT verbal scores and Change: that is, the better the SAT verbal score the more improvement in attitude. Similar correlational relationships were found between Change and the SAT total score (-.12), change and GPA (-.18), and Change and Attpre (-.19). All three reflect significant and positive relationships.

The relationship between Attpre, Attpost, and Change deserves some scrutiny. Intially, it is important to note the overall correlation between Attpre and Attpost (.49) which suggests that the students entered the course and left the course with essentially the same attitude: those students who had a better attitude at the beginning of the course generally had a better attitude at the end of the course, and those students who had a poor attitude at the beginning of the course generally had a poor attitude at the end of the course.

The correlation between Attpre and Change (-.19) should be viewed as a subset of the larger picture previously described. This correlation suggests that those students who had poorer attitudes at the beginning of the course (higher attitude scores on the pretest) were *slightly* more positive at the end. Unfortunately, the attitude fluctuations fom pre to post in a "better attitude" direction are lost since the correlation between Attpost and Change (.25) also suggests that everyone essentially entered and left with the same attitude.

It also should be noted that although the correlations described are significant the significance is minimal. At best, the majority of the relationships are quite weak.

Following the correlation analysis, a downward regression procedure was used to ascertain the best predictors of attitude change. The independent variables included: year, term, Preatt, SAT verbal, SAT math, GPA, and grade in the reading course. All the variables accounted for 10 percent of the variance with Preatt, SAT verbal, and GPA accounting for the majority of the explained variance. (See Table 2.)

TABLE 2 - MULTIPLE REGRESSION ANALYSIS RESULTS

Variables	Partial Correlation Coef
1. Year	-0.002
2. Term	0.059
3. Attpre	-0.231
4. SATV	-0.124
5. SATM	0.044
6. GPA	-0.111
7. Grade	-0.003

Multiple R = .31
% of Variance Explained = .10

In order to further analyze the relationships between several variables, analyses of variance were conducted between Change and the variables of major, grade, and GPA. Only the comparison of GPA and Change indicated a significant difference. The variable GPA was then divided into three catagories: those students with GPAs equal to or above 3.35, those with GPAs between 2.91 and 3.34, and those with GPAs equal to or below 2.90. (See Table 3.) A program for pairwise contrasts on simple and/or main effects on means after an analysis of variance was used to further analyze the data. A significant difference was found between group 1 and group 3, and group 2 and group 3. (See Table 4.) Students in the top two grade catagories changed toward more positive attitudes while students in the bottom category changed in a negative direction; any positive change was camouflaged by the negative change in the poorer students. The results suggest that students with a B average or better tended to have a more positive attitude toward reading.

TABLE 1 - PEARSON PRODUCT MOMENT CORRELATIONS BETWEEN TEN VARIABLES

	Year	Term	Attpre	Attpost	SATV	SATM	SATOT	GPA	GRADE
Term	.68*								
Attpre	-.10	-.11**							
Attpost	-.01	-.01	.49**						
SATV	-.05	-.03	-.22**	-.28**					
SATM	.08	.04	-.05	-.09	.55**				
SATOT	.02	.01	-.15**	-.21**	.87**	.89**			
GPA	-.02	-.01	-.14**	-.18**	.44**	.34**	.44**		
Grade	-.12	-.04	-.01	-.12*	.28**	.28**	.32**	.65**	
Change	.09	.11*	-.19**	.25**	-.15**	-.07	-.12*	-.18**	-.13*

N = 190
* = P < .05
** = P < .01

VARIABLE MEANS AND STANDARD DEVIATIONS

	MEAN	STD. DEV.
Year	1.12	.71
Term	2.03	.85
Attpe	59.44	15.48
Attpost	58.39	15.63
SATV	456.00	81.66
SATM	481.82	85.79
SATOT	937.83	147.24
GPA	3.12	.45
Grade	4.13	.75
Change	-1.08	9.80

TABLE 3 - ANALYSIS OF VARIANCE SUMMARY TABLE COMP. OF 3 GPA GRPS ON ATT. CHANGE

Source	Sums of Squares	DF	Mean Squares	F Ratio	Probability
GPA	802.0	2	400.99	4.271	0.015
Error	26948.0	287	93.90		

TABLE 4 - CELL SUMMARY FOR VARIABLE 1 CHANGE

Mean	Observations	Variance	Cell Identification
-2.268	97	87.74	1 = GPA > 3.35
-2.273	95	71.32	2 = GPA of 2.91-3.34
1.245	98	121.86	3 = GPA > 2.90

CONCLUSIONS AND IMPLICATIONS

Several interesting conclusions can be drawn from the results of the study. First, attitudes toward reading appear to be relatively stable, as measured by the present assessment device. Therefore, we cannot expect dramatic change during a ten-week course, especially since the focus of a reading methods course is not directly upon attitude change among students. When Elliott (1983) suggests intervention strategies, however, we must think of a time period of longer than the duration of one course. Assessment of students' attitudes toward reading might occur upon admission to teacher education; intevention strategies for those with negative attitudes should be planned over at least a one or two year period.

Second, attitudes toward reading, as well as change in attitudes during the reading methods course, appeared to be related to the SAT verbal and total scores, GPA, and course grade. It is interesting, however, that the students who earned the better course grades changed positively while those with poorer grades changed negatively. It does appear, therefore, that the course had at least some effect on changing attitudes toward reading.

Third, the relationships between attitudes/attitude change and academic variables are genrally weak, indicating that other variables may be more influential than the ones selected for study. Possibly we need to look beyond the usual type of data gathered in this and other studies (Benton & Jerrolds, 1983, and Mikulecky & Ribovich, 1977). It seems likely that preservice teaches' attitudes toward reading are shaped by their own experiences in learning to read. Perhaps study of anecdotal records from interview and self-report inventories would reveal variables that are more closely related to attitudes toward reading.

Our efforts might also be directed toward studying the effectiveness of various intervention strategies to see which can modify negative attitudes toward reading. And, of course, it is yet to be established experimentally that a teacher's attitudes toward reading significantly affect children's attitudes toward reading.

Finally, as Mikulecky & Ribovich (1977) observed, criteria for judging whether particular scores are positive or negative are lacking. This instrument, as well as others, should be administered in other settings and to other poulations. Then statements about a given group's attitudes toward reading—whether they are positive or negative—could be made. The present study represents a beginning in establishing these criteria.

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APPENDIX

*Name:*_____

Attitude Toward Reading *Date:*_____

This is to find out how you feel about reading. You are to read each statement carefully and decide how *you* feel about it. Then indicate your feeling by marking on the line before each question:

A - if you strongly agree
B - if you agree
C - if your feeling is neutral
D - if you disagree
E - if you strongly disagree

___	1.	Reading assignments often makes me feel irritable and angry.
___	2.	I usually feel relaxed when reading my textbooks.
___	3.	I think my mind works well when I'm doing my reading assignments.
___	4.	When I can't figure out a reading assignment, I feel as though I am lost in a mass of words.
___	5.	I avoid reading when possible because I'm not a very fast reader.
___	6.	Reading is a stimulating and interesting activity.
___	7.	My mind often goes blank and I am unable to concentrate on my reading assignments.
___	8.	I feel sure of myself when reading my textbooks assignments.
___	9.	I sometimes feel like running away from my reading assignments.
___	10.	When I hear the word reading, I have a feeling of dislike.
___	11.	I am afraid of reading.
___	12.	Reading is fun.
___	13.	I like anything that involves reading.
___	14.	Reading assignments often scare me.
___	15.	I usually feel calm when doing reading assignments.
___	16.	I feel good toward reading.
___	17.	Tests involving a lot of reading always seem difficult.
___	18.	I think about reading assignments outside of class and work on them during my spare time.

___ 19. Trying to read my textbooks makes me nervous.
___ 20. I have always liked reading.
___ 21. I would rather do anything else than do reading.
___ 22. Reading is easy for me.
___ 23. I dread reading.
___ 24. I feel especially capable when doing reading assignments.
___ 25. I feel stimulated to look for ways to use what I read to solve practical problems.
___ 26. Time drags while doing my reading assignments.

REACTION: AN INVESTIGATION OF PRESERVICE TEACHER'S ATTITUDES TOWARD READING

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Because teacher attitude toward reading is positively related to student achievement in reading (Schofield, 1980), this study to determine variables influencing the attitude of preservice teachers toward reading is significant. Knowing that the student grade point average (above 2.9), SAT verbal score, and attitude toward reading upon entering a reading methods course are variables which directly influence teacher attitude toward reading is helpful and confirms logic. A person who likes to read (positive attitude) will read and study more (above 2.9 GPA), and because of the enjoyment of reading will have better verbal skills (higher SAT verbal score). It is disappointing that a reading methods course does not significantly change attitudes toward reading. But the results of this study are not surprising!

The importance of this study resides more in the questions raised by the results than in the actual results. Because many colleges of education cannot currently enjoy the luxury of accepting only students with high GPA's and SAT verbal scores what else can be done? Will a one or two year intervention strategy for those preservice teachers with poor attitudes be effective? Can such a strategy be designed? How could a procedure be implemented?

The reading methods course did have some effect on changing attitude toward reading for students who made higher grades in the course. Should special assistance and encouragement be given to students with poor attitudes toward reading (as measured on a pre-test) to increase their likelihood of making a better grade and improve their attitude? Would a significant positive change in attitude occur? Would this change be lasting?

Although the academic variables had some effect on attitude, the relationship was weak. As suggested by Weidler and Askov, we need to look beyond this usual type of data. What are the other variables which contribute to teacher attitude toward reading? It appears that this is the question which must be answered first. A review of research on factors which teachers find to be important in their training as well as their classrooms may prove to be a beginning point for identifying other variables. A summary of teacher reactions to reading courses taken in their undergraduate and graduate training programs is provided by Collins-Cheek (1982, 193). Moore and Hanley (1982) give a listing of teacher needs in order to be effective in the classroom. Using this information as a basis, researchers in the area may identify elements which impact teacher attitude toward reading. Knowing the elements which have the greatest impact on teacher attitude toward reading can then lead to the supply of intervention strategies useful in negating the effect.

As Weidler and Askov state, "it is yet to be established experimentally that a teacher's attitude toward reading significantly affects children's attitudes toward reading;" however, Schofield (1980) has established experimentally that a teacher's attitude does affect student achievement. Therefore, teacher attitude toward reading must continue to be investigated. Much study has been conducted regarding teacher attitude toward reading instruction (O'Rourke, 1980; Smith, 1978; Milulecky and Ribovich, 1977; Mueller, 1973) but maybe the more basic question is that of teacher attitude toward reading. In an ongoing study, Mateja and Collins, (in preparation), have found significant differences in attitudes towards reading and learning when undergraduate secondary majors experience the application of abstract concepts involved in reading education. This is another avenue for investigation. Measuring the affective area is never easy but herein may lie the answers to many of our concerns about the cognitive areas in reading!

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AN EXPLORATION OF PRESERVICE TEACHERS' CONCEPTUAL CHANGE DURING READING METHODS INSTRUCTION

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Recent research on teacher effectiveness has helped us understand how instruction is accomplished in real classrooms. This paper is based on the premise that there is a strong analogous relationship between teacher effectiveness and teacher educator

effectiveness, and that the process variables which influence outcomes in elementary classrooms may also influence outcomes in reading methods instruction.

Background

Several categories of process variables have been identified as important for teacher effectiveness. These include time-on-task, management and direct instruction (Duffy, 1983) and more recently, explicit teacher presentation and explanation of instructional information (Duffy, Roehler & Book, 1983; Good, 1983; Pearson, 1984). Additionally, recent reseach by Weinstein (1983) and Doyle (1981) has emphasied the role of students in mediating instruction. As students process the instructional information presented by teachers, they "restructure" it according to their own prior knowledge and experience. Consequently, teacher effectiveness may depend not only on opportunity to learn and expository explanation but also on the teacher's ability (1) to listen to student responses as they apply instructional content, (2) to make judgements about how students have re-structured instructional information, and (3) to respond to such restructuring with appropriate spontaneous elaboration which links the cognitive frames of teacher and student.

This paper reports the initial steps in applying this rationale to teacher education. As with classroom teaching, it is probably important for reading professors to provide explicit presentations and explanations regarding reading methodology. However, like elementary students, preservice teachers no doubt mediate such instruction, re-structuring it in terms of their own interpretation of what reading is and how teaching occurs, making it desirable for professors to respond to such restructuring in ways which insure a linkage between the cognitive frames of the teacher educator and the preservice teacher. This study is based on this assumption and hypothesizes that there may be little linkage between the cognitive frames of teacher educators and students in typical lecture-based reading methods. As a result, much of the information delivered by the teacher educator about the teaching of reading may not be assimilated or accommodated by the teacher candidate.

The Problem

This paper examines reading methods instruction from two perspectives. First, it examines they way in which preservice teaches conceptualize knowledge about reading instruction. Second, it examines the ways in which preservice teachers' conceptualization of methods course content is "restructured" as a result of the instruction provided in conjunction with a field practicum. The following research questions are posed:

1. To what exent do preservice teachers apply in the field practicum what has been taught in the reading methods course?
2. Do preservice teachers change their cognitive conceptions about reading instruction as a result of methods instruction?
3. What characterizes the preservice teachers' changes in conceptual understanding?

Procedures

The reported findings are based on two descriptive studies. The first was conducted with 14 preservice teachers during the first two terms of a three term, field-based reading methods course taught during the 1982-83 academic year. The second was conducted with 10 preservice teachers enrolled in the same program of field-based reading methods during Fall, 1983.

Study #1. This study was designed to answer the first research question. In conjunction with a reading methods course, fourteen preservice teachers were placed in an urban elementary school setting to plan, design and implement bi-weekly reading instruction for groups of children during eighteen weeks from September, 1982 through March, 1983. Each preservice teacher was observed at least three times and interviews were conducted following each observed lesson implementation. Three sets of data were collected:

1. university reading methods materials: syllabus, lecture notes, lists of desired teacher outcomes.
2. observers's ratings and evaluative notes from interviews with preservice teachers' regarding their lesson implementations.
3. follow-up notes written to the observer by the preservice teachers.

The data were qualitatively analyzed using the systematic techniques of descriptive field studies. First, evidence that the preservice teachers met course objectives was screened. Behavioral notes documented by the observer established teaching characteristics of teacher candidates. Interviews with the preservice teachers, were analyzed for their perceptions and explanations of their teaching and how they made their decisions. Similar analysis was made of their follow up notes.

Study #2. The second study was an extension of Study #1 and examined the second and third research questions. It occurred in the same field practicum site. Twenty-nine students were enrolled in the reading methods course. On Tuesdays and Thursdays, they attended methods courses and were observed teaching children at the field site. Ten of the 29 preservice teachers were randomly selected for this study; the results of three of these ten are reported here as preliminary findings.

Because this study was concerned with the re-conceptualization function of the field practicum, cognitive mapping was used to trace the students' conceptual progress. It was anticipated that, by the end of the courses, the students would conceptualize reading instruction much as the reading methods instructor does. This study reports the baseline cognitive maps and the first interim map which were collected after eight weeks of methods instruction.

At the beginning of reading methods courses, preservice teachers began a practicum in which they provided bi-weekly reading instruction for a below grade-level reader as an application of the course content. Each preservice teacher was observed teaching this student at least four times during the fall term. All lessons and post-instruction debriefing sessions were taped. Four sets of data were collected:

1. two cognitive maps of reading instruction constructed by the preservice teachers (a) as a baseline measure before the reading methods course instruction began and (b) after eight weeks of the 10 week term, using on each occasion 44 words associated with reading instruction;
2. audio tapes of each preservice teacher's explanation of their maps;
3. observer's notes which were made during the reading methods course regarding the preservice teachers' mediation of the information provided during lectures; and
4. tape recordings of the preservice teachers' reading lessons and post-instruction debriefing sessions.

For each of the three preservice teachers reported here, qualitative analysis of the September and November cognitive maps were examined, the information about student mediation was studied and relationships between them were identified.

Findings

The findings are reported for each study in turn.

Study #1. Study #1 focused on the first research question and was designed to determine whether the preservice teachers enrolled in the reading course were applying in the practicum what had been taught in the course. The results indicate that application did occur but that it occurred gradually over three stages.

Stage 1 was characterized by the preservice teacher's general inability to understand why reading skills were being taught at all or any sense of cohesiveness in presenting instructional information to children. This stage seems to be a typical "cognitive overload" situation. The students, despite receiving expository explanations during lecture sessions, were unable to apply such information in the practicum. Such cognitive overload was characterized by two instructional behaviors during the practicum. First, there was much concern with the maintenance of activity flow. The preservice teachers assigned dittos and workbook pages as the major instructional activity. Second, misinformation was often communicated to pupils. For instance, twelve preservice teachers told children that words which they could successfully sound out were called sight words; five explained to children that words they did not know instantly were sight words.

The second stage occurred when teachers were able to assess pupil reading needs and provide isolated, "one-shot" lessons to meet these needs. At this stage, the preservice teachers operated on the assumption that reading skills are isolated from real reading and that the skills were worth teaching for their own sake. It is also at this second stage that evidence appears regarding how the practicum causes preservice teachers to restructure what they understood about reading instruction from the lectures.

The third stage occurred late in the second term of the three term course sequence. At this point, the preservice teachers seemed to have absorbed much of the information from the methods class and they appear to be comfortable enough to allow for reflection and self-analysis. The focus appears to be on application.

As a result of these findings, it was concluded that preservice teachers do not directly apply what was taught in the methods class but that, instead, application occurs gradually and in stages. The major inhibitor to application seemed to be the preservice teacher's prior conceptions (how *they* were taught) and the dissonance and confusion which accompanies the learning of something as complex as reading instruction. Additionally, the preservice teachers appeared to be re-structuring their understanding of reading methods in response to practicum activities and that the practicum itself served as a vehicle for bringing together the cognitive frames of both the instructor and the prospective teachers. Such evidence led to the second study.

Study #2. Because Study #1 indicated that preservice teachers gradually tend to change in their thinking about reading instruction and that the field practicum contributes toward this change in thinking by encouraging a restructuring of cognitive information, Study #2 examined preservice teachers' intial concepts about reading instruction and they way these concepts change during the course of methods instruction and field experience. As such, it focused on Question #2 (whether preservice teachers change their cognitive conceptions) and Question #3 (what characterizes these conceptual changes).

Question #2 was investigated through the use of cognitive maps. The structure of the cognitive maps serve as a graphic display of a preservice teacher's concept of reading instruction, with successive administrations of cognitive maps used to demonstrate subsequent change. It was hypothesized that such repeated mapping would substantiate that preservice teachers do change their conceptions in response to methods instruction.

The initial cognitive maps show a wide variance in thinking about reading instruction among preservice teachers. Preservice Teacher A.'s map was very linear in shape. It seemed to be a hierarchial ordering of "definers" with few relationships and/or connections shown. Preservice Teacher B.'s map formed a loosely-shaped pyramid. Even though general education "definers" were arranged at the base and terms such as "apply" and "success" appeared as the end result, no specific relationships among terms were indicated. Preservice Teacher C.'s map revealed some relationships between "definers" but no general structure or cohesiveness. Also, C. took much longer than the others to complete the map.

In summarizing the three preservice teachers' conceptions of reading instruction as they entered the field practicum:

1. A. demonstrated a hierarchial ordering of education and reading instruction.
2. B. demonstrated an enclosed but unconnected pyramid structure.
3. C. demonstrated no real structure for education in general or for reading instruction.

After eight weeks of reading instruction (methods course lectures and practicum debriefing sessions), the three subjects reconstructured their maps. A.'s second cognitive map indicated that change occurred. The initial linear structure changed into a more branched, inter-connective one. A.'s second map demonstrates a path of change in which major instructional themes such as "professional teacher," "teaching," and "strategy" become the major units of structure connecting horizontally with definers grouped vertically under each major unit. B.'s second cognitive map also reflected change. The original loosely shaped unconnected pyramid completely vanished and the beginnings of a connective structure appeared in the instructional areas emphasized in the course. Unlike A.'s second map, B.'s did not seem to be a rearrangement of her first one. B. had started an entirely new conceptual schema for reading instruction. The third subject, C., provides a sharp contrast to both A and B. C's initial map appeared to have little cohesion and, despite the fact that C. said she had learned "a lot," her second map continued to reflect little cohesion. Although some of the content stressed during instruction does appear on the map (i.e., "sight words," "word analysis," "context," "phonics"), there still seemed to be confusion and fragmentation. C.'s 45 minute explanation of the map reflected little logical organization and was difficult to understand, suggesting that little change had taken place.

The third question examines how the preservice teachers' change in conceptual understanding can be characterized. Three characteristics emerged.

The first noticeable characteristic is that, even though the three preservice teachers received the same reading methods lectures, their second cognitive maps were not "clones" of each other. It appears that each student's conceptual framework of reading instruction interacted with the same reading methods instruction and produced widely different interpretations.

The second noticeable characteristic is that much of the conceptual change seems to be tied to the field practicum. For instance, A. responded to the field practicum by asking questions about her own lessons to make sure her understanding was correct and by asking for more information to clear up confusions and, as a result, the observer could respond by providing

elaborative explanation based on A's experience. Similarly, B. expanded her conceptual understanding as a result of the debriefing. For instance, B.'s initial lessons were very short and skeletal. When the field instructor enumerated four additional integral segments, B. included them in her next lesson. Subsequently, B. was able to use debriefing sessions to make concrete the concepts discussed in abstract form during lectures.

The third noticeable characteristic of conceptual change is that it is difficult to create. For instance, C.'s debriefing sessions were very different from A.'s and B.'s. Much instruction by the field observer was needed, both during the practicum and back on the college campus where a *very* explicit model was provided during reteaching sessions. Despite such help, C.'s second map indicates that she had not changed her conceptual structure very much. Even though she did finally produce a satisfactory reading lesson, real cognitive change apparently did not occur.

Discussion and Implications

This study represents a new line of research. The embryonic stage of its development and the descriptive methodology employed preclude drawing firm conclusions. However, the data do stimulate three sets of questions.

The first focuses on the way in which we structure teacher education. Most reading methods instruction is conducted in a lecture format. If a practicum is used, it frequently serves as a site for summative evaluation. This study raises questions about this arrangement. Perhaps the lecture method alone or the lecture method with an evaluative practicum is not the best format. Instead, making the practicum, as well as the lecture, an integral part of the methods instruction would provide the opportunity to help students to more effectively process the lecture information.

The second question focuses how to conduct investigations of teacher education. The cognitive map concept may provide a tool for tracing the developmental progress of preservice teachers' change during methods instruction, for monitoring the "path of change" of students, and for making revisions in course content and structure in response to conceptions noted.

Finally, such cognitive change may not occur unless the field practicum is viewed as a site for continuing instruction rather than evaluation. Traditionally, this has not been the case. Field experiences in reading are often designed to *evaluate* how well preservice teachers design and implement instruction. The expectation is that instruction occurred in the lecture and that students will now practice and apply what has already been learned in the reading methods classes. Two assumptions underlie this practice. First, it is assumed that university methods course lectures provide preservice teachers with adequate knowledge about reading and reading instruction. Second, it is assumed that preservice teachers conceptualize lecture information in the way intended by the instructor. This study questions the validity of both assumptions. It suggests that effective reading education is analogous to effective classoom teaching and that, while the substantive explanation contained in lectures is important, preservice teachers (like elementary students) re-structure such information in terms of their own backgrounds and need additional instruction which deals with this re-structuring. Hence, effective reading education may be associated with our ability to reconceptualize the reading practicum to emphasize the function of formative instruction rather than the function of summative evaluation.

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READING ACHIEVEMENT TRENDS OF FOURTH GRADE STUDENTS WHO EXPERIENCED DIFFERENT APPROACHES TO KINDERGARTEN READING INSTRUCTIONS

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There has long been a great deal of discussion directed at the question of how much emphasis there should be on teaching reading to kindergarten children. This concern continues to be a source of great anxiety to parents and an argumentative question among educators. However, the question of whether or not to teach reading in kindergarten is no longer the issue. Based on the results of studies by Durkin (1970) and others, it appears clear that kindergarten students can learn to read. The point of contention is how to teach reading to kindergarten children and which children to teach.

In the past, relatively few children attended kindergarten, and the issue of reading could be safely ignored or argued based on philosophical positions. At the present time the student population in Utah, the state in which the study was conducted, is growing at approximately 18,000 new students a year (1983). With the rapid increase in kindergarten enrollment (and even earlier preschool experiences), the question of "What is the proper curriculum for kindergarten?" becomes a significant educational issue. To try to clarify this question by recourse to personal opinion results in a meaningless debate. However, summaries of the literature on the issue are few in number, and studies which attempt to describe the long-term effects of early reading experiences are surprisingly rare in the literature.

PURPOSE OF THE STUDY

The purpose of this study was to examine the reading achievement trends of children who had started kindergarten in schools which used different approaches to beginning reading instruction. It is hoped that such research information will be helpful to educators and administrators in making curriculum decisions related to the implementation of a kindergarten reading program.

BACKGROUND

It is a widely accepted fact that some five-year-olds are ready to learn to read. What is still debated is whether they should be taught in a formal kindergarten reading program and, if so, what type of reading program is best suited for this age of student.

The lack of agreement regarding current kindergarten reading instruction has its origins in the past. Early kindergarten programs had as their major purposes the development of readiness and social skills in children. Most often, these reading skills focused on oral language development and avoided activities that involved aspects of the printed word. Few, if any, public kindergartens professed to provide any type of formal reading instruction. However, Durkin's (1961, 1963, 1966, 1974-75) well known investigations of early readers appeared to have provided acceptance for the fact that children can begin learning to read before starting first grade. In recent years, the focus has been on what type of reading experience is appropriate for kindergarten children and the professional practices and beliefs of kindergarten teachers as they relate to reading instruction.

Any conclusions that may be drawn from the reviews and studies related to kindergarten reading instruction become tentative in light of research methodological problems and the varying and even opposing points of view represented by their authors. However, the trend seems to favor a slow, gradual start in beginning reading instruction, with readiness skills embedded in the context of reading rather than readiness first and reading afterwards. When to begin classroom reading instruction is still open to debate, but there is strong support in the literature for an easy, relaxed introduction of reading in kindergarten for students who are ready. Most studies indicate that children who have an early start in reading achieve higher than their later-starting peers. Also, early reading seems neither to create nor prevent school adjustment or psychological problems. It is also evident from a review of the literature that the majority of kindergarten teachers voice support for informal reading instruction. Studies indicate that most kindergarten teachers agree that kindergaten children can learn to read. However, teacher instructional reading practices often conflict with research evidence, teacher reports, and expert opinion. Most studies conclude that there is a need for both preservice and insevice training in early childhood reading instruction. It is also clear that more reserach is needed to determine what methods and materials are most effective in teaching kindergaten children to read. In the studies reviewed for this summary, no two studies employed the same materials or methods. A variety of teaching strategies was used. Another important question that still is unclear is whether an early start in reading is beneficial in later grades. More research is needed to determine longitudinal effects of kindergarten reading instruction (both cognitive and affective) and to determine which children will benefit most form what type of reading instruction.

READING ACHIEVEMENT TRENDS OF FOURTH GRADE STUDENTS

In this study, the factor "kindergarten reading experience" was by no means completely isolated as an independent variable with all other variables controlled. However, the study is based on the assumption that there is a reciprocal relationship between early reading instruction and later reading achievement. It was assumed that different types of kindergarten reading programs might produce different achievement trends in students' reading ability during the first five years of school. The purpose of this study was to describe the reading achievement trends of fourth grade students who had experienced different approaches to reading instruction in their kindergarten programs.

METHOD

Subjects

The sample comprised representative groups of students from two large metropolitan school districts in Utah. Each school district utilized a different approach to teaching reading in kindergarten. Subjects for the study were 235 fourth grade students from nine elementary schools located within the two school districts who had started kindergarten in one of the selected elementary schools and had remained in that school through fourth grade.

Schools to take part in the study were selected by each district's program planning and evaluation director. Schools were selected on the basis that they were representative of district schools which scored in the top, middle, or lower third on the standardized reading achievement testing conducted by each district.

School Districts and Kindergarten Reading Programs

The two school districts that agreed to take part in this study are large metropolitan school districts in the Salt Lake City area of Utah. They are very similar districts in geographic location, size, number of elementary schools, and type of student enrollment within the schools. The student population of both school districts is predominantly white middle class. For the purposes of this report, the school districts will be identified as School District A and School District B.

Reading Programs

School District A used kindergarten reading programs that are best described as moderately structured. Their programs are designed to reflect a planned, sequential reading program based upon the readiness and skills of the individual student. For most students, the program consisted of basic readiness skills related to prereading such as visual and auditory discrimination. However, as students complete the readiness goals they move into the more advanced reading skills of a skill-based mangement system reading program which is used throughout the district. Teachers are encouraged to provide skill instruction using a variety of materials and methods. Some of these were language experience activities, directed reading, sight reading development, phonic skill development, learning center activities, and teacher-developed materials.

School District B used a heavily structured reading program in their kindergarten classrooms. The program used in this district was the Distar Reading Series. This appraoch is a direct instruction program which teaches a particular response to a particular stimulus, followed immediately by teacher reinforcement. The materials consist of a kit containing spiral stand-up charts for group work, a teacher's guide, and take-home sheets. Reading Level I focuses on letter symbols and sounds; Reading II teaches the blending of sounds into words and how to read sentences. Distar is taught at a rapid pace, which encourages automatic responses to the stimuli presented by the teacher. The children learn the sound-letter associations, then how to blend sounds by "saying it fast." They practice "spelling" by prolonging the phonemes; then they practice writing words that they have learned to sound in the reading sequence. Students learn to recognize words phonetically prior to reading them in sentences and short stories. All kindergarten children taking part in the study in District B received this type of reading instruc-

tion. Both school districts' first grade reading program is a continuation of the kindergarten program with a gradual moving into basal reading series.

Data Collection Procedures

The program planning and evaluation directors from each school district agreed to provide elementary schools to take part in the study that were representative of the reading achievement of elementary schools within their district. This was done by each district's director selecting six elementary schools. Two of the schools were representative of schools which scored in the top third on the district's yearly reading achievement testing, two other schools were representative of the middle third, and the remaining two were thought to be representative of schools which had scored in the lower third. The selected schools were also reported to be representative of the district's schools in socioeconomic factors. All schools were selected on the basis of having representative kindergarten reading programs.

Due to differences in student enrollment of the schools each district provided to take part in the study, three schools were used from District A while six schools were used in District B. During on site visits to each participating school, cumulative folders of all fourth grade students were examined to determine which students had stated kindergarten and remained enrolled within that paticular school. This selection process produced 126 students from District A and 109 students from District B. This was approximately 50% of the fourth graders in the schools taking part in the study.

Instrumentation

Tables 1 and 2 indicate the test data which were collected from sample subjects' cumulative folders obtained from the respective elementary school offices. These same sources were used to categorize subjects according to each of the following:

1. Age (as either "older" or "younger" depending upon whether student entered kindergarten prior to or after September 1, 1973)
2. Sex (as either male or female)
3. Achievement level of the school (as either "lower," "middle," or "upper" depending on whether the school the subject attended was in the "low," middle," or "upper" third on reading achievement testing conducted by the school district)

Technical manuals for the Stanford Achievement Test and the Iowa Test of Basic Skills should be referred to for technical information regarding tests used in this study.

TABLE 1

DATA COLLECTION FOR DISTRICT A SAMPLE

Date of Testing	Sample Students' Grade Level When Tested	Tests Used	Type of Scores Reported	Type of Scores Used in Data Analysis
4/80	1.8	ITBS (1973) Vocabulary, Form 6, Level 7	Percentile, Stanine	NCE
4/81	2.8	ITBS (1973) Vocabulary, Form, 6, Level 8	Percentile, Stanine	NCE
4/82	3.8	ITBS (1973) Vocabulary, Form 6, Level 9	Percentile, Stanine	NCE
4/83	4.8	IBS (1980) Vocabulary, Form 7, Level 10	Percentile, Stanine	NCE
4/80	1.8	ITBS (1973) Reading Comprehension, Form 6, Level 7	Percentile, Stanine	NCE
4/81	2.8	ITBS (1973) Reading Comprehension, Form 6, Level 8	Percentile, Stanine	NCE
4/82	3.8	ITBS (1973) Reading Comprehension Form 5, Level 9	Percentile, Stanine	NCE
4/83	4.8	ITBS (1980) Reading Comprehension, Form 7, Level 10	Percentile, Stanine	NCE
1/83	4.4	Test of Academic Abilities (1971) Short Form (Level III)	Deviation IQ	Deviation IQ

TABLE 2

DATA COLLECTION FOR DISTRICT B SAMPLE

Date of Testing	Sample Students' Grade Level When Tested	Tests Used	Type of Scores Reported	Type of Scores Used in Data Analysis
4/80	1.8	SAT (1973) Vocabulary, Form A, Level Primary I	Stanine, Percentile, Standard	Standard
4/81	2.8	SAT (1973) Vocabulary, Form A, Level Primary II	Stanine Percentile, Standard	Standard
4/82	3.8	SAT (1973) Vocabulary, Form A, Level Primary III	Stanine, Percentile, Standard	Standard
4/83	4.8	SAT (1973) Vocabulary, Form A, Level Intermediate I	Stanine, Percentile, Standard	Standard
4/80	1.8	SAT (1973) Reading Comprehension, Form A, Level Primary	Stanine, Percentile, Standard	Standard
4/81	2.8	SAT (1973) Reading Comprehension, Form A, Level Primary II	Stanine, Percentile, Standard	Standard
4/82	3.8	SAT (1973) Reading Comprehension, Form A, Level Primary III	Stanine, Percentile, Standard	Standard
4/83	4.8	SAT (1973) Reading Comprehension, Intermediae I	Stanine, Pecentile,	Standard
4/80	1.8	SAT (1973) Listening Comprehension, Form A. Level Primary I	Stanine Percentile, Standard	Standard

Data Analysis

Regarding Analysis of Vocabulary Scores form the District A Sample

A multivariate analysis of variance (MANOVA) technique was used to test for a difference among the means of the first grade, second grade, third grade, and fourth grade ITBS vocabulary NCE scores and to examine for interaction effects due to each of the following factors individual and in combinations:

1. Age
2. Sex
3. Achievement level of the school
4. Reading level of student (as either "low," "middle," or "high" depending on whether the reading comprehension scores fell below the fourth stanine, within the fourth, fifth, or sixth stanine, or above the 6th stanine)
5. Aptitude Indicators: IQ scores (as either "low," "middle," or "high" depending whether the deviation IQ scores from the Test of Academic Abilities is less than 85, between 85 and 115, or greater than 115)

Four multivariate tests of significance were used in locating specific pairwise differences among means. They were (1) Pillars, (2) Hotellings, (3) Wilks, and (4) Roys (1976).

Regarding Analysis of Reading Comprehension Scores from the District A Sample

The same data analysis procedures described above for the District A vocabulary scores were used except the ITBS reading comprehension NCE scores were used in place of the ITBS vocabulary NCE scores.

Regarding Analysis of Vocabulary Scores from the District B Sample

A multivariate analysis of variance (MANOVA) technique was used to test for a difference among the means of the first grade, second grade, third grade, and fourth grade SAT vocabulary standard scores and to examine for interaction effects due to each of the following factors individual and in combinations:

1. Age
2. Sex
3. Achievement level of school
4. Reading level of student (as either "low," "middle," or "high" depending on whether the reading comprehension scores fell below the fourth stanine, within the fourth, fifth, or sixth stanine, or above the sixth stanine)
5. Aptitude Indicators: Listening Comprehension (as either "low," "middle," or "high" depending whether the on

whether the listening comprehension scores fell below the fourth stanine, within the fourth, fifth, or sixth stanine, or above the sixth stanine)

Four multivariate tests of significance were used in locating specific pairwise differences among means. They were (1) Pillars, (2) Hoteilings, (3) Wilks, and (4) Roys (1976).

Regarding Analysis of Reading Comprehension Scores from District B Sample

The same data analysis procedures described above for District B vocabulary scores were used except that the SAT reading comprehension standard scores were used in place of the SAT vocabulary standard scores.

Results

Because of some insufficient cell sizes, each of the following pairs were collapsed:

1. "Low" and "middle" achievement schools in District A
2. "Low" and "middle" reading levels in District A
3. "Low" and "middle" IQ scores in District A
4. "Low" and "middle" achievement schools in District B
5. "Low" and "middle" reading levels in District B
6. "Low" and "middle" IQ scores in District B

A summary of the results appears herein.

District A Vocabulary

Results of the MANOVA and mutliple comparisons tests on the vocabulary scores of the District A sample are given in Table 3. The difference between the fist grade vocabulary NCE mean of 79.2 and the comparable 77.0 second grade mean is not significant at the .05 level. The third grade mean of 67.5 is, however, significantly (< 0.01) less than the 77.0 second grade mean. The fourth grade mean of 65.7 is not significantly less (at the .05 level) than the third grade mean. None of the interaction effects, either singularly or in combination, are significant at the .05 level.

District A Reading Comprehension

Results of the MANOVA and multiple comparison tests on the reading comprehension scores of the District A sample are given in Table 4. The difference between the first grade reading comprehension NCE mean of 77.9 and the comparable 76.2 second grade mean is not significant at the .05 level. The third grade mean of 68.5, is however, significantly ($< .000$) less than the 76.2 second grade mean. The fourth grade mean of 65.8 is not significantly (at the .05 level) less than the third grade mean. The only interaction effects which were significant at the .05 level are:

1. The difference between the scores of " high achieving schools" and "medium/low achieving schools" is significantly ($< .001$) influential on the difference between second and third grade reading comprehension scores.
2. The difference between the scores of "high achieving schools" and "medium/low achieving schools" is significantly ($< .001$) influential on the difference between third and fourth grade reading comprehension scores.

TABLE 3
TABULAR SUMMARY OF THE RESULTS FORM THE ANALYSIS OF THE VOCABULARY SCORES IN DISTRICT A

Sample Students' Grade Level When Tested	Test Norm Group NCE Mean	x	s	n	SEM	Level of Significance of x From Previous Year's
1.8	50	79.2	13.2	126	±2.4	—
2.8	50	77.0	12.7	126	±2.3	<.071
3.8	50	67.5	12.5	126	±2.2	<.01
4.8	50	65.7	11.9	126	±2.1	<.054

Interaction effects which are significant at the .05 level: None.

TABLE 4
TABULAR SUMMARY OF THE RESULTS FROM THE ANALYSIS OF READING COMPREHENSION SCORES IN DISTRICT A

Sample Students' Grade Level When Tested	Test Norm Group NCE Mean	x	s	n	SEM	Level of Significance of x From Previous Year's x
1.8	50	77.9	9.6	125	+1.7	—
2.8	50	76.2	13.0	125	±2.3	<.137
3.8	50	68.5	13.6	125	±2.4	<.000
4.8	50	65.8	13.5	125	±2.4	<.003

Interaction effects that are significant at the .05 level:

1. School "Achievement Level" on the difference between the second and third grade reading comprehension scores ($< .001$)
2. School "Achievement Level" on the difference between the third and fourth grade reading comprehension scores ($< .001$)

District B Vocabulary

Results of the MANOVA and multiple comparison tests on the vocabulary scores of the District B sample are given in Table 5. The difference between the first grade vocabualry standard score mean of 129.67 and the comparable 147.17 second grade mean is significant (< .00). The third grade mean of 164.61 is also significantly (< .00) greater than the second grade mean of 147.17. The fourth grade mean of 168.98 is not significantly greater (at the .05 level) than the third grade mean of 164.98. The only interaction effect which is significant is the effect of sex by school achievement level (favoring females at "higher level schools") with < .04.

District B Reading Comprehension

Results of the MANOVA and multiple comparison tests on the reading comprehension scores of the District B sample are given in Table 6. All pairwise differences among the four standard score means (i.e., 139.96 for first grade, 151.94 for second grade, 159.83 for the third grade, and 172.20 for the fourth grade) are significant (all levels < .00). The only interaction effects which were significant at the .05 level are:

1. Listening Comprehension on reading comprehension scores (< .011).
2. Sex by Listening Comprehension by School Achievement Level (favoring females) on the difference between the second and third grade reading comprehension scores (< .014).
3. Listening Comprehension on the difference between the third and fourth grade reading comprehension scores (< .014).
3. Listening Comprehension on the difference between the third and fourth grade reading scores (< .042).

TABLE 5

TABULAR SUMMARY OF THE RESULTS FROM THE ANALYSIS OF THE VOCABULARY SCORES IN DISTRICT B

Sample Students' Grade Level When Tested	Test Norm Group Standard Score Mean	x	s	n	SEM	Level of Significance of x From Previous Year's x
1.8	112	129.67	9.95	109	±2	—
2.9	132	147.17	12.46	109	±2.5	< .00
3.8	142	164.61	43.12	109	±8.0	< .00
4.9	154	168.98	14:39	109	±3.0	< .296

Interaction effects that are significant at the .05 level:
1. Sex by Listening Comprehension (favoring males) on the difference between the second and third grade scores (< .037)
2. Sex by Listening Comprehension (favoring males) by School Achievement Level on vocabulary scores (< .011)

TABLE 6

TABULAR SUMMARY OF THE RESULTS FROM THE ANALYSIS OF THE READING COMPREHENSION SCORES IN DISTRICT B

Sample Students' Grade Level When Tested	Test Norm Group Standard Score Mean	x	s	n	SEM	Level of Significance of x From Previous Year's x
1.8	116	139.96	15.36	109	±3	< .00
2.9	130	151.94	11.66	109	±2	< .00
3.8	142	159.83	10.54	109	±2	< .00
4.9	154	172.20	14.61	109	±2.5	< .00

Interaction effects that are significant at the .05 level:
1. Listening Comprehension on reading comprehension scores (< .011)
2. Sex by Listening Comprehension by School Achievement Level (favoring females) on the difference between the second and third grade reading comprehension scores (< .014)
3. Listening Comprehension on the difference between the third and fourth grade reading scores (< .042)

DISCUSSION

The purpose of this study was to examine the reading trends of students who had started kindergarten in schools which used different approaches to beginning reading instruction. It was assumed that a reciprocal relationship between early reading instruction and later raeding achievement existed and that different types of kindergarten reading programs might produce different achievement trends in students' reading performance during the first five years of school. An examination of reading achievement trends related to different approaches to kindergarten reading instruction would provide additional insight for administrators contemplating curriculum decisions related to kindergarten reading.

Perhaps the most important analysis involving achievement tends is that of the main effect conducted on reading comprehension. The main effect on comprehension scores was significant at the third grade level in District A, with a decline in test scores being observed, whereas all other levels were not significant. In District B, a consistent pattern of significant gains in reading scores on the reading comprehension measure is revealed. However, a glance at the data in Tables 4 and 6, and giving attention to points above the means for each district, reveals a rather similar pattern and perhaps a more educationally important indication of what is occurring with students' reading achievement scores over a period of years. Here we see a general regression to the mean occurring in each school district. Due to the rather high level of reading achievement in the early grades of both districts, this is to be expected and would suggest that, regardless of the early reading program their students experienced, this tend in reading scores might be observed.

It would appear that students' performance, which is well above the mean regardless of the reading approach employed in the early grades, will experience some decline in reading achievement test scors by the end of fourth grade. This would suggest that when considering the merits of a kindergarten reading program, other factors are more important than the effect a program may have on the trends of reading achievement scores over a period of time.

The trends reported in this study do not appear to differ drastically from what is occurring with reading achievement scores in each school district when you include all children and from what is reported to be happening elsewhere in the country with children's reading achievement scores. This rather steady decline in reading achievement scores beginning at the third grade may be more an artifact of standardized test construction than student reading performance. It can also be interpreted that the "transitional" period from third to fourth grade, as characterized by Baker and Stein (1981), is indeed a period of change and movement from an instructional stage involving a great deal of reading and practice on narrative prose to a new stage requiring extensive reading of expository prose and that this period of change and movement is reflected by student performance on standardized test measure.

An examination of the trend in vocabulary scores reveals the same general decline as in reading comprehension scores in District A. However, District B vocabulary score trend analysis reveals a suprisingly different profile. The end of third grade vocabulary scores in District B is an unexplainable difference in the trends of both school district socres. This sharp increase in vocabulary scores at the end of third grade level in District B cannot be explained within the scope of the present study.

There was no consistency in significant interaction effects observed in each district's reading scores. Little can be generalized from this analysis.

The limitation of this study should be noted and carefully considered. In the present study, the "kindergarten reading program" was described and reported by district program evaluation specialists to be representative of each school district's approach to beginning reading. These programs were not observed and may differ from that which was reported. There was no effort to make a comparison of the trends of each district's reading scores. However, when one looks at the trends of each district, it should be remembered that each district used a different standarized reading measure which employed different norms and different scoring procedures and that this factor alone may have produced a different trend in reading scores. It should also be apparent that the student population used in the study is well above average in its reading performance and that other student populations might produce different trends in reading achievement scores.

SUMMARY

The results of this study seem to suggest that the reading achievement trends that students' test performance might produce over a long period of time may be more the result of the level of performance in the early grades rather than the type of early reading program used. It was not the intent of this study to determine if the levels of reading performance in these districts' kindergartens were significantly influenced by the type of reading program employed. This is an area of needed research. In addition, future research needs to examine student interest in reading and attitude toward reading instruction that different approaches to kindergarten reading instruction may produce. The social and emotional factors that may relate to the experiences that children have in learning to read in kindergarten need further investigation.

While stronger agreement is being seen that children can and should be taught to read in kindergarten, the question of what kind of kindergarten reading program is the most productive still needs further study. Many factors in addition to achievement trends need to be considered in the implementation of a kindergarten reading program.

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ASSESSMENT OF PRESERVICE TEACHERS IN SIX PENNSYLVANIA COLLEGES AND UNIVERSITIES

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Much concern is being expressed today by educators, policy makers, and the general public about the quality of public education. Discussions tend to focus on two key issues which greatly affect the instruction in American classrooms: the teacher work force and the conditions of the work place.

It is the purpose of this paper to present data from a descriptive study which related to the first issue, the teacher work force.

BACKGROUND

Schlechty and Vance (1983) and Sykes (1983) agree that teacher education candidates have decreased in both number and in proportion of the college population. These researchers also agree that the current student pool is less prepared academically than students in the past. Sykes uses SAT, Graduate Record Examination, and National Teacher Examination scores to support this view. His figures show significant decreases in the scores of education majors on the Graduate Record Exam and the National Teacher Examination from 1970-1976. SAT scores reveal a similar pattern. From 1973-1981 education majors' verbal SAT scores dropped 27 points; math scores dropped 31 points.

It is hypothesized by Sykes that the academically strong students are not selecting a career in teaching for a variety of reasons:

1. The purchasing power of teachers' salaries has declined.
2. The quality of the school working environment has declined.
3. Teaching has lost occupational prestige.
4. Career mobility is now possible for women and minorities in occupations which were blocked in the past.
5. Fewer teaching positions are available because of a smaller school population.

These factors hav combined to produce what economists define as "over-education," a declining return on the investment in education caused by a reduction in employment opportunities commensurate with the job aspirations of graduates.

Sykes further contends that awareness of this concern has stimulated policy regulation of teaching and teacher education at the state level. He reports that roughly three-fifths of the states now require testing for preservice teachers (Sykes, 1983).

Colorado is an example of a state which requires education majors to demonstrate proficiency in spelling, English language usage, mathematics, and speaking ability. Frazier (1983) states that critics ask for data which show that basic skill screening results in better teaching. Frazier counteracts this statement by challenging critics to prove that basic competency testing hurts classroom teachers.

The Secondary Education faculty at The Pennsylvania State University decided in 1979 to begin assessing teacher education candidates in reading, writing and speaking. Their ongoing research has demonstrated that most prospective teachers meet intial screening levels in these basic skills and that programs can demonstrate the competency of their graduates regularly, as part of the program (Dupuis, 1981; Fagan, 1981; Snyder, 1981a, 1981b; Fagan, Dupuis & Snyder, 1983; Dupuis & Fagan, 1983).

It was within this context that the Pennsylvania Department of Education began studying a redesign of its *Professional Education and Certification* regulations. Included in the general standrds section of the preparation program for professional educators is a statement which recommends sceening candidates prior to acceptance into teacher education programs. "Each institution must employ selective admission criteria to teacher certification programs including assessment and verification of an appropriate level of communication and mathematical skill along with a broad base of academic literacy" (Pennsylvania Department of Education, 1982).

This document generated much discussion among educators. If standards are to be set and students tested, shouldn't the scores represent a critical level which compares a student to his/her counterparts at other institutions? How do education majors enrolled in Pennsylvania institutions compare?

It was decided that a study should be conducted to identify reading competency standards for students applying for admission to teacher education programs.

The purpose of this study was threefold:

1. To determine if the differences exist in the reading levels, habits and attitudes of the teacher candidate pool at large public universities, small public universities and small private church-related colleges.
2. To determine if differences exist in the reading levels, habits and attitudes of male and female teacher education candidates.
3. To determine if differences exist in the reading levels, habits and attitudes of elementary and secondary teacher education candidates.

SUBJECTS AND METHODS

Five colleges and universities agreed to test education majors with the *Nelson Denny Reading Test* Form E (ND) and the Brown Holtzman Survey of Study Habits and Attitudes (SSHA) in the fall 1983 semester. The Pennsylvania Stae University, The University of Pittsburgh, Millersville University, St. Francis College, and Marywood College tested education majors who were completing the general education requirements and were enrolled in professional education courses. Indiana University of Pennsylvania had administered the Nelson Denny test at the completion of the spring 1983 semester, so those scores were collected and included in the study. Since the Indiana students were student teaching when the other tests were administered, it was not possible to test them with the SSHA. Four hundred and eighteen students were included in the population tested with the ND; three hundred and eighty-nine students were tested with the SSHA.

The majority of students tested were Pennsylvania residents. St. Francis and Marywood Colleges reported 10% of the population with a New York residency. Minority enrollment was less than 5%. All colleges and universities had admission standards for freshmen, but admission citeria varied by institution. Each of the schools required students to have earned a 2.0 grade point average before being accepted into the teacher education program. Marywood College interviewed candidates before acceptance. All schools had developmental courses and a college-wide tutoring program which was available to students referred by professors. The University of Pittsburgh tested education majors with a criterion referenced test in the first methods course. Students falling below minimum scores were required to make up this deficiency in a lab. The Pennsyvlania State University provided other basic skills assessments, beyond the ND, for secondary education students.

FINDINGS

Testing was concluded and data processed in November 1983. The ND is reported for the Vocabulary and Comprehension subtests, as well as the Total score. All ND scores are standard scores, converted form raw scores as recommended by the Test Manual. The range of standard scores fo each test is Vocabulary, 269-339; Comprehension, 267-338; Total, 268-340.

Analysis of variance on the mean standard scores for the total sample on the Nelson Denny Reading Test indicated that there was no significant difference ($p < .05$) in the reading ability of students in large universities, small universities and small church-related colleges.

An analysis of scores by sex, across all institutions was conducted. Again, no significant differences were found in the mean standard scores, on the subtests or the Total score. The number of males in the sample is limited because the predominant major in the sample is elementary education.

The same conclusion of non-signifiiance can be stated for the analysis of scores by majors. No significant differences between elementary and secondary majors were found, on the subtests or the Total score.

The SSHA is comprised for four subtests, which are aggregated to form subscores and a total score. A, Delay Avoidance and B, Work Methods are summed to form I, Study Habits. C, Teacher Approval and D, Educational Acceptance are sumed to form II, Study Attitudes. I and II are summed to form the total score, Study Orientation. The Pennsylvania State University students scored highest on all SSHA sections except Teacher Approval. On that section, Marywood College Students ranked highest.

When SSHA scores are analyzed by sex, females scored higher than males on all secitons (t tests significant at .01). For the total score, Study Orientation, the difference is striking. (See Table 1).

The SSHA scores by certification areas, elementary vs. secondary majors, provide some evidence that elementary majors' study processes are more effective, given the definitions used in the SSHA. All sections showed significantly higher scores for elementary majors, though the delay avoidance difference was significant only at the .10 level. Again, the difference in the Total score, Study Orientation, is striking.

TABLE 1

MEAN SCORES OF EDUCATION MAJORS ON THE SURVEY OF STUDY HABITS AND ATTITUDES BY INSTITUTION

SSHA Subsections	Institution	x	SD
A Delay Avoidance	Millersville	28.2	9.9
	Marywood	31.3	10.3
	PSU	32.2	9.7
	Pitt	30.9	8.8
	St. Francis	27.4	.90
B Work Methods	Millersville	33.0	10.1
	Marywood	36.8	9.4
	PSU	37.1	8.9
	Pitt	36.1	9.1
	St. Francis	34.4	9.3
I Study Habits	Millersville	61.1	18.7
	Marywood	68.0	18.4
	PSU	69.2	16.5
	Pitt	66.9	16.1
	St. Francis	61.8	16.5
C Teacher Approval	Millersville	35.5	9.7
	Marywood	40.5	8.2
	PSU	40.2	7.2
	Pitt	38.8	8.9
	St. Francis	39.0	9.6
D Educational Acceptance	Millersville	32.1	9.8
	Marywood	37.1	9.0
	PSU	37.5	7.8
	Pitt	36.8	7.2
	St. Francis	36.6	8.5
II Study Attitudes	Millersvile	67.6	18.4
	Marywood	77.6	15.5
	PSU	77.8	13.9
	Pitt	75.6	15.4
	St. Francis	75.6	16.6

Total			
Study	Millersvile	128.7	34.9
Orientation	Marywood	145.6	30.1
	PSU	147.0	27.5
	Pitt	142.6	26.6
	St. Francis	137.4	29.2

TABLE 2

SCORES OF MALE AND FEMALE EDUCATION MAJORS ON THE SURVEY OF STUDY HABITS AND ATTITUDES

Subsections	Sex	x	SD	T ratio
Delay	males	26.0	9.4	
Avoidance	females	31.9	9.6	5.36*
Work	males	30.7	10.2	
Methods	females	37.1	8.8	5.56*
Study	males	56.6	17.8	
Habits	females	68.9	16.6	6.03*
Teacher	males	35.0	9.6	
Approval	females	39.7	8.1	4.35*
Educational	males	31.0	8.9	
Acceptance	females	37.2	8.3	6.07*
Study	males	66.0	17.6	
Attitudes	females	76.9	15.1	5.51*
Study	males	122.7	32.3	
Orientation	females	145.9	28.5	6.36*

N: males = 99
females = 290
*significant at $p < .01$

Discussion

The purpose of this study was to gather information which could be used to determine the characteristics of the teacher education pool in Pennsylvania teacher training institutions. Once the reading levels, habits, and attitudes were identified, standards could be set which would permit schools to identify weak students in time to counsel them or provide corrective instruction.

Nelson Denny Test Results. It is interesting to note that there is very little difference in the reading scores of students at the different institutions. This lack of difference holds also when the sample is analyzed by sex and certification level. This would appear to indicate that the freshman admission criteria were selective, the developmental courses were effective or the general education programs were sufficiently demanding that students who have earned a 2.0 grade point average also have acceptable reading levels, on the average.

Survey of Study Habits and Attitudes. The Pennsylvania State University students have recently experienced a change from the quarter system to a semester format. It can be theorized that their study habits and attitudes have been refined by being forced to perform in a shorter time frame. It must be remembered that the students tested in this study were upperclassmen, so students with poor habits and attitudes are not likely to remain enrolled. Males score lower on study habits and attitudes. A greater percentage of secondary education students were male, which may have accounted for the results in Table VI.

CONCLUSIONS

It would appear from the data presented on the reading levels, study habits and study attitudes that these Pennsylvania education majors are not as ill prepared for teaching as national reports would suggest. The reading scores were negatively skewed, with the greater numbers of scores falling in the higher ranges of the tests. However, scores were distributed, so perhaps this study will help teacher eduators to identify the small groups of students who need additional skill work before entering the classroom.

Perhaps an even more important feat has already been accomplished: a communication network has been formed. Teacher educators are sharing techniques, evaluation instruments, and data. All institutions have indicated an interest in working toward state proficiency norms for acceptance into teacher education programs.

Upgrading teacher education is a difficult undertaking, but one which can be realized through strategic planning and cooperation among teacher training programs.

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HOW READING FIELD EXPERIENCE STUDENTS VIEW THE OBSERVATION/EVALUATION PROCESS

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A number of educators have recenty questioned the ability of university supervisors to influence the development of student teachers. Kilgore (1979), for instance, concluded from a reivew of the literature on teacher training programs that the traditional role of the supervisor is outmoded. Bowman (1979), who based his conclusions on the writings of Patty (1973) and Andrews (1976), suggested that the cooperating teacher could easily assume the university supervisor's role, given the proper preparation and monetary reward. According to Bowman, the university supervisor cannot hope to arrive at a valid assessment because "there develops a friendly conspiracy between the cooperating teacher and the student teacher which prevents the supervisor from knowing what is taking place" (p. 30).

Whether these challenges to the university supervisor's role in preservice education are as applicable among early field experience students as among student teachers is one of the questions the present study explores. More specifically, how do reading field experience students perceive the roles of the university supervisor and the classoom teacher? Do their perceptions support or refute the position taken by Kilgore and Bowman as described above?

A second and related question is how much value do preservice teachers place on the required reading methods courses that university supervisors are responsible for teaching? Specifically, do students' perceptions of the contribution or impact these courses have on their teaching change as they move from field-experience intern to student teacher?

METHOD

A total of 119 completed questionnaires were received from four sections of Early Childhood Education majors enrolled in three consecutive field experience courses (developmental reading, corrective reading, and student teaching) at the University of Georgia from September, 1982 - May, 1983. The first question of this study was addressed by students in the first two field experience couses; the second question was addressed by students in the second and third courses. The subjects were all female and in their senior year of undergraduate education. At the end of each quarter, the subjects were asked to complete an open-ended questionnaire which sought their perceptions of what it was that distinguished the university supervisor's role in the observation/evaluation process form the classroom teacher's role. (The questionnaire was altered slightly each time to take into account the specific characteristics of the three different types of field experiences.) Additionally, subjects were asked to comment on the usefulness of their prior and/or concurrent reading methods courses in helping them achieve success in the field classroom. The questionnaires were completed during the period between the subjects' last few days of field experience and their final exam for the course. To preserve anonymity, the responses were collected and tabulated by the graduate assistant; the results were not made available to the course instructor until after the submission of final course grades.

RESULTS

Role Differences

While there was definitely an observed difference in the roles played by the university supervisor and by the supervising classroom teacher, as delineated by the subjects responding to the questionnaires, that difference was not always perceived in the same way. In general, the subjects in the first field-based course (developmental reading) looked upon their university supervisors in a more positive manner than they did their supervising classroom teachers. There appeared to be a trend, as subjects moved to the second field-based course (corrective reading), toward viewing the classroom teacher in a more positive role. This, however, did not diminish the role of the university supervisor; that remained positive and influential. (Because the university supervisors in Reading Education do not have any input at the student teaching level, this question was not addressed by student teachers.)

In general, subjects enrolled in the first two courses (developmental reading and corrective reading) viewed the university supervisor as being more oriented toward the intern and her concerns than was the supervising classroom teacher. In one intern's words, "The university supervisors were more supportive and interested in the interns' success. The teacher, on the other hand, was more of a silent observer; she did not provide much feedback or support."

"Several subjects perceived the university supervisor as both a motivator and a constructive critic. Others stressed the critic function of the university supervisor. They described the university supervisor's role as being one of watching and evaluating the intern, of looking at specific techniques employed, and of giving periodic, professional feedback.

The supervising classroom teacher, on the other hand, was most often viewed as more concerned with the pupils' interests than with those of the intern. In many cases, the classroom teacher was looked upon as being too busy to be of help and assistance to the intern. The teacher "doesn't have time to evaluate the intern because she is running the rest of the class," commented one field experience student. Those interns who viewed the classroom teacher in a negative manner saw her as pushing to get through the book and through lots of worksheets. "The university supervisor stressed reaching the children, whereas my teacher stressed getting it done," one intern explained. Another said that the classroom teacher seldom saw her teach and gave little, if any, evaluation or suggestions, feedback or support. Still another complained, "My supervising teacher never saw me instruct my groups. She was absolutely no help to me at all."

From a positive standpoint, however, several interns saw their classroom teachers as role models and as being more aware of "true-to-life situations." Although a few interns feared the supervising classroom teacher, most expressed the desire that he/she be encouraged to provide them with more feedback.

Impact of Coursework

The second question, which was addressed by field-based students enrolled in the corrective reading and student teaching courses, dealt with the impact of previous and/or concurrent reading education courses upon their field experience. Nearly all of those in the corrective reading classes found their coursework in reading to be of value in their field experience that same quarter. For instance, their comments included: 1) "The coursework done in reading was especially helpful;" 2) "It was a great job of pre-preparation before we go into the

field;" 3) "The prior university work was very helpful. It showed me what to look for and a variety of ways to work on special problems;" and 4) "I found the microteaching very helpful as far as practice with those activities for the actual classroom."

The student teachers' replies to the same question were considerably more detailed and varied. They perceived both of their previous reading methods courses as being valuable. In particular, the student teachers attributed their degree of familiarity with the basal (and their expertise in conducting directed reading lessons) to the required coursework.

The second major contribution which student teachers felt their previous reading coursework had made was the grounding they received in general classroom diagnosis. Even though their student teaching situations left them little time to work with students on an individual basis, many of the interns felt more confident in dealing with their lower level reading groups because of their diagnostic training.

Finally, the third most frequently cited contribution, according to the student teachers, was the university supervisor's use of simulated activities. Role playing, peer teaching, and minilessons were viewed as providing practice in a safe university environment, free from the constraints of actual classroom teaching. The student teachers appreciated being able to try out various instructional strategies under the university supervisor's guidance before being confronted with similar situations in the field. Although many of the interns indicated that they had felt initially that their time was being wasted, in retrospect, they were glad to have had the opportunity to acquaint themselves with the various activities.

DISCUSSION

Clearly, early field experience students viewed the university supervisor's role as being distinct from that of the supervising classroom teacher. In fact, during the first of the three-course sequence spent in the field, interns relied almost exclusively on the university supervisor for support and feedback. Although this dependency lessened when the interns moved into their second field-based reading education course and began to view the classroom teacher in a more favorable light, nevertheless, they continued to look to the university supervisor as an evaluator, motivator, and constructive critic.

What remains unknown, of course, is whether this perceived role distinciton carries over into student teaching, and if so, the nature of it. At present the evidence is limited. Yates (1981), for example, reported that 71 percent of the 500 student teachers he surveyed in England felt the classroom teacher was able to devote more time than the university supervisor to observation and discussion. A corollary finding was that 78 percent of his sample perceived the classroom teacher's evaluation as being more valid than the university supervisor's. Alvermann (1981), in an exploratory, in depth-interview study involving five student teachers, found that the university supervisor's role was seen as complementing rather than duplicating the classroom teacher's. Specifically, participants in that study depended on the university supervisor to make their field experience go smoothly. Like Yates, Alvermann reported that the student teachers viewed the classroom teacher's evaluation as being more valuable than the supervisor's, largely because the former was present on a daily basis and shared common pupil concerns.

While evidence is still scarce concerning preservice teachers' perceptions of the nature of the university supervisor's role in relation to the classroom teacher's, there is considerably more information available on the impact that coursework is thought to have on subsequent classroom performance. At least from the preservice teacher's point of view, methods courses are viewed as valuable and worthwhile. In a survey conducted by Alvermann, Boothby, Merrion, and Waack (1983), close to 70 percent of the 46 preservice teachers said that their professional sequence courses had been either helpful or very helpful. Samson (Note 1) reported that out of 60 preservice teachers surveyed, 38 agreed with the statement that "The text and class information from my university studies were readily adaptable to my acutal needs in the field."

In summary, what all this seems to indicate—contrary to Kilgore's (1979) and Bowman's (1979) conclusion—is that university supervisors in reading education, at least, do influence the development of preservice teachers. Further research in this area is needed, however, if sharper distinctions are to be drawn between the role of the university supervisor and that of the classroom teacher. An approach worth exploring seems to be one that focuses on the perceptions of preservice teachers themselves.

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PREPARATION IN READING AND EDUCATOR CERTIFICATION: REQUIREMENTS, NEEDS, ISSUES

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The principle means by which the states attempt to control the quality of instruction offered by public schools is to regulate the certification of teachers and other professionals in education. Recognizing that the foundation of educational excellence is based in the training of professional educators, all of the states significantly link the regulation of educator certification to the study of professional education at colleges and universities. Most states require minimal practical experience as part of that study and several states additionally require successful performance on a professional competency test, either over the general field of education or in a specialty area or both. By imposing such requirements, the states seek to assure that persons authorized

to serve as educators in the public schools have at least the knowledge and skills necessary to enter and keep abreast of developments in the teaching profession.

Whether the particular requirements imposed are appropriate for enabling teachers to accomplish educational goals most important for students and the society at large is not at all certain. As assessments of American education continue to report declining levels of student achievement, the effectiveness of states' certification requirements might well be called into question. Given the central importance of literacy to learning and to effective citizenship, and given reports of declining achievement in reading, a question of increasing significance is whether the states are taking appropriate measures to control the quality of reading instruction offered in the public schools. Specificially the question arises. What are the states requiring in reading education as a minimum qualification to be certified for service in public schools?

To find out, we sent a questionnaire to the teacher certification office in each of the 50 states. The questionnaire asked about qualifications related to reading that a person must have to become certified as an elementary teacher, secondary teacher, administrator/supervisor, and a number of specialized roles in education (counselors, librarians, special education teachers, etc.). For each professional role, we asked how much coursework in reading education is required, whether applicants must take a competency test, and what previous certification or experience is necessary to become certified as a reading specialist.

Elementary Teachers

Responses to our questionnaire indicate that in most states at least one reading course is required to qualify for a certificate as an elementary grade teacher. Generally, the largest number of states (22) require six semester hours or eight quarter hours of reading, about the equivalent of two reading courses. However, a significant number of states (17) require only three or four semester hours or two to six quarter hours, about the equivalent of one reading course. Only two states (Louisiana and Vermont) indicated that they require nine semester hours, the equivalent of about three reading courses.

Nine states were vague about their requirements. They indicated that the only requirement is completion of an approved program of professional study or that "competencies must be met." When follow-up phone calls were made for clarification, most of these states indicated that they do expect candiates to complete at least one course in reading education although they leave it to the institution to see that coursework in reading is taken. In most cases, the teacher certification offices indicated that their state colleges and universities usually require their students to take more than one reading course. It seems that when left to the institution, more coursework in reading is required.

Given the importance of reading to all subject areas taught in the elementary grades, it is striking how little preparation in reading is required by the states. One state indicated that it requires eight to nine semester hours in the social studies while only requiring one three semester hour course in methods and materials of reading instruction.

Secondary Teachers

Responses to our survey indicated that one reading course (of two to three semester hours or three to six quarter hours) is required of secondary teachers in 23 of the states. This is surprising given the meager requirements for elementary teachers in many states. Ten states require six semester hours or two reading courses for their secondary teachers. Nine states require no reading courses for their secondary teachers; however, two of those states did clarify that English teachers are the exception. (English teachers have to take three semester hours or one course in reading in these two states.) Additionally, in another of those states, Maryland, both English and Social Studies teachers are required to take three semester hours of reading, while no coursework in reading is required of other secondary teachers. Finally, one of the nine states indicating that no reading courses are required of secondary teachers actually wrote "N/A" on its response to the survey.

Nine other states were vague about their requirements. They indicated that only graduation from an approved program or demonstration of approved standards/competencies must be met. When questioned by follow-up telephone calls, these states were no less vague about the reading requirements of those programs/standards/competencies for secondary teacher certification.

Special Education, Media, Speech, Etc.

Due to the broad number of professional roles included in this category of educators, very little useful information was gleaned from this part of our survey. The state certification offices did respond to this part of the survey, but due to its inclusiveness, we could not ascertain the fields to which the responses pertained.

Many of the certification offices sent brochures and mimeographed sheets with their responses. After reviewing these materials, we found that many states require at least one reading course for their special education teachers, and some require a reading course for their media and speech teachers. As one would expect, the requirements varied by teaching field. If a survey of this sort were attempted again, it is recommended that Special Education, Media, Speech, and Other Resource teachers each be placed in a separate response column.

Administration and Supervision

This part of the survey also caused us some problems. Even though the certification offices responded, their responses were somewhat misleading. For instance, many states responded that no reading course is required of their administrators. After random follow-up telephone calls, we ascertained that while no reading courses are required for the administration/supervision certificate, persons applying for this certificate usually must hold as a prerequisite a teaching certificate in elementary education or in a secondary teaching field. Depending of course on their teaching fields, applicants either have or have not already taken a reading course as part of their initial certification.

It appears that this is a very haphazard way of certifying administrators. Reading ability is probably the most important element of success of students in secondary schools as well as elementary schools. It would seem that state departments of education would want to ensure that their administrators have basic knowledge about reading instruction and would require at least one or two courses for that certification.

Certification or Competency Test for Persons Certified in Reading

Responses to our survey indicate that most states do not currently require a competency test for persons applying for certification in reading. However, the states of Georgia and Oklahoma did note that they administer reading specialist competency examinations. Additionally, five states (Arizona, Florida, New Hampshire, North Carolina, and Virginia) in-

dicated that they have one competency test which all teachers must take, and New York indicated that a "college proficiency exam in reading" is required. Another five states (Arkansas, Mississippi, New Mexico, Wisconsin, and Tennessee) indicated that passing a competency test is required, although they did not indicate whether their tests are speciffically for reading specialists, or if they require the same competency test of all teachers. Based on a literature review for a previous study (Flippo, et. al), we know that the state of Alabama also has a test for reading specialists. Additonally, based on that same information we know that many states are in the process of making decisions on certification tests or are developing certification tests for a variety of fields in which they certify educators.

Several states also have competency exams implemented for elementary classroom teachers. Based on an examination of the content of these tests (Flippo & Foster, unpublished material), we know that very little knowledge of reading methodology is required of preservice classroom teachers taking these tests.

Summary and Discussion

The results of the survey provide a rough measure of the states' current concern for controlling the quality of instruction in reading. The findings are hardly encouraging. Certainly they do not square with the public's belief that literacy development is a primary function of schools. In most states, persons applying for certification to teach in the elementary schools need complete but one course in reading and, if a certification test is required, need little knowledge of reading methodology to pass—scant preparation for an area of instruction that is universally given greatest emphasis in the elementary grades. Only a modest amount of coursework in reading is required for certification as a secondary teacher. Although response to our questionnaire was somewhat vague about certification requirements for specific specialized personnel in education, the results are clear enough that little preparation in reading is required of them. Similarly, the responses to questionnaire items dealing with administrator/supervisor certification were somewhat cloudy, but they do provide sufficient information to allow us the conclusion that apparently the states expect little if any preparation in reading instruction for school leaders. As expected, the most extensive preparation in reading is expected of reading specialists. Not only is a respectable amount of coursework expected of them but an increasing number of states are requiring successful performance on a competency test in reading.

If students are to achieve acceptable levels of literacy development, schools must be competent to deliver the kind of instruction that enables them to do so. Such competence is reflected in the curricula and classroom practices of schools. The quality of curricula and instructional practices is in turn a reflection of the qualifications of the professional personnel who operate the schools. As for the quality of the reading curriculum, however, it appears that the current mood is rather to hold students, instead of educators, responsible. The mood is for demanding that students simply measure up in reading. But to face the matter squarely, merely insisting on students measuring up to a prescribed standard of achievement without concomitantly assuring that schools are operated by eduators who are themselves adequately prepared leaves students bearing the entire burden of a responsibility that in the last analysis cannot be theirs to bear. Reasonably that reponsibility belongs to educators and the authorities who credential them.

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TOWARD EVOLVING A PROFILE OF THE "SATISFIED" READING PROFESSIONAL: CONCOMITANCE AND IMPLICATIONS

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It is recognized that one's general satisfaction with life closely parallels that of work satisfaction. Specific research has not often dealt with the relationship between work effectiveness and ad hoc changes in life situations such as marriage, divorce, economic stability, health, child rearing, environmental and social changes. In this exploratory pilot study, investigators interviewed a group of professional women who were drawn from a preliminary survey. All of those selected were reading specialists and women who had on the survey, shown a high or low degree of work satisfaction. The purpose of the study was to determine whether these were common patterns that manifested themselves around traditional life stages.

In attempting to profile the "satisfied" reading professional it was decided that attention could not be focused merely on factors relating to the school environment and teaching activities. Consideration also needed to be given to life outside the workplace. The key research question was: to what extent does level of satisfaction in one area affect a person and overall satisfaction? Presumably, concerns and events which impact upon the personal life of the individual play an undeniable role in the profile. Even a treatment of the "dissastisfied," burned-out professional may provide a contrast which further serves to define the "satisfied" reading specialist.

Background and Research

The roots of job satisfaction are reviewed in the Five Towns study (Lortie, 1975). In this study teachers described a "good day" as one in which: 1) teachers begin by feeling well; 2) students are enthusiastic, stimulated, and responsive; 3) time is used productively; 5) interruptions were kept to a minimum; and 6) clerical duties were absent. In addition, satisfaction was also related to class size, facilities, minimal extra duties, and salary increases and promotions.

In a field where salary increases are predictable and uninspiring, intrinsic rewards, such as recognition, provide the incentives to those who persist. Recognition of professional accomplishments by administrators correlates positively with satisfaction (Chapman & Lowther, 1982). A positive environment in which varying needs of faculty are met may promote personal, as well as professional satisfaction and development (Weller, 1982). Despite platitudes promoting what ought to be, intrinsic compensations may be overlooked. Chapman and Lowther (1982) found that teachers who learned new ideas and accepted leadership responsibilities were not valued or promoted

by the school structure. The researchers found, however, that accomplishing such achievements was related to overall work satisfaction.

Teaching is considered to be a stressful occupation (Fletcher and Payne, 1982). Ricco (1977) states teaching is one of the most mentally hazardous jobs in the world. In the typical elementary class the teacher has 1200 psychological exchanges. Riccio found that 32% of Ohio's teachers retire for that cause. Stress, in turn, can initiate the syndrome known as burn-out (Mattingly, 1977). In informal discussions, teachers list fatigue, irritability, sleeplessness, bursts of anger, depression, apathy, and withdrawal as signs of burn-out (Christiansen, 1981, Penny, 1982).

Burn-out affects workers in various occupations and has far reaching implications. Freudenberger (1977) emphasized the severity of burn-out by noting that symptoms can evolve into dissatisfaction with work, inflexibility in thinking, absenteeism, a sense of helplessness, even high job turnover and career changes. Researchers have noted that such symptoms can extend outside the workplace i.e., changes in behavioral and social patterns, physical illness, marital problems, alcoholism, and deterioration of home life (Freudenberger, 1977; Maslack, 1976; Maslack and Pines, 1977; Mattingly, 1977).

Two recent studies find contrast between successful older women professionals and younger women professionals. Ferguson (1983) found younger women most often attributed success to feminine skills such as sensitivity, understanding, and being female. Older successful women attributed their success to technical skill, competence, independence. The younger women in her study said that males were their most important source of support. A recent New York Times Poll (1983) found sharp contrast with a 1970 study on the number of women who felt their place is on the job. The following three comparisons are noteworthy:

	1970	1983
Motherhood is one of the best parts of being a woman	53% agreed	26% agreed
Women said they were working to support family themselves	18%	32% 24%
Career women made worse mothers	50% agreed	25% agreed

Levinson (1978) described influences and developmental stages in the lives of successful males. These stages seem to revolve around a recognizable work-orientation for men. According to Levinson, as a man begins his career he develops a "Dream" which includes his work and aspect of his life outside the workplace. A transitional period seems to occur around 30, as the man re-evaluates the aspirations related to his "Dream." In the thirties, he slips into the "Settling Down Phase," as he begins to establish his own place in the work-world. Between 35-40 he reaches a "Boom" stage—"Becoming One's Own Man"—in which a feeling of security prevails and satisfaction soars. During the "Boom" period males drop mentors who helped them at earlier transition states. They increasingly view themselves in terms of their work success. Family and children are not the central part of their existance. In addition, Levinson says that along the life continuum men do not view themselves in relation to "significant others" to the degree women do from early adulthood.

Life development in women seems to involve different factors, notably the importance of certain relationships outside the workplace (Dimidjian, 1982; Lortie, 1975; Charters, 1970; Stewart, 1977). Though the overall pattern is similar to Levinson's description, Dimidjian (1982) emphasizes the inclusion of a "significant other" in the process. In her early 20's, a woman begins her career and establishes an important relationship. A transitional period is reached around the late 20's in which the relationship is dissolves and/or career is re-evaluated. In the 30's, the woman settles into her career and establishes a new relationship or re-commits herself to the prior responsibility. In an earlier study, Charters (1970) related a woman's development in terms of the female life cycle, emphasizing marriage and the parent-child bond. In his study of teachers, Lortie (1975) concludes that the energies and interests of women teachers vacillates between family and work. According to Stewart the developmental sequence for women is relational (the specific other) work (affirmation of competence) and intrapsychic (personal awareness), all which make life more difficult for them.

The conclusion of Dimidjian and other researchers on female development is that a woman's relational ties with ohers tend to make her most concerned with maintaining a permanent bond with a significant other while relegating professional development to a secondary place. Thus a professional man may boom through his work achievements primarily, while a professional woman's satisfaction may be encumbent upon building an extended feminie identity which by the end of the thirties

> ...encompasses life decisions regarding relational ties with significant others maintenance of a professional identity which is externally and internally valued, and a growing sensitivity to contact with intrapsychic aspects of the self. (Dimidjian, 1982, p. 41)

The present study is an attempt to explore the parameters of work satisfaction of professional women educators, in this case reading specialists, to compare findings to earlier research in the area. Although this represents merely a first exploratory effort, the goal of such research is to eventually evolve profiles of satisfied reading professional eductors at various transitional stages of adult life.

Methodology

A self report "structued" questionnaire was sent to 61 reading specialists in the Tidewater, Virginia area with three or more years experience in their present job. 36 persons answered the questionnaire, for a return rate of 59%. Subjects were asked to respond in an open-ended fashion to the following questions:

1) What makes you happy about your job?
2) What makes you unhappy about your job?
3) When have you been happiest in your career, and under what conditions?
4) When have you been unhappiest in your career, and under what conditions?
5) What circumstances would cause you to leave your profession?
6) How has your perception of your job satisfaction changed within the last five years? To what do you attribute these changes?
7) If you could make changes in your job, which ones would enhance your job satisfaction?
8) Do you see your role as different or the same as what your academic training prepared you to do?
9) On a scale of 1 to 10, rate your job satisfaction?
10) On a scale of 1 to 10, rate your personal satisfaction?

The self-report protocol was analyzed for high and low work and personal satisfaction. Three respondants who exhibited a high degree of satisfaction and three respondants who exhibited a low degree of satisfaction were interviewed in depth. The purpose of this in-depth interview was to isolate elements pertaining to general, work, and person satisfaction. Interviewers probed life stage transitions in adults as proposed by Levinson (1978) and Dimidjian (1982) to ascertain whether job satisfaction heightened at certain developmental stages or adult transition periods.

Results

Following is an in-depth description of each of the six interviewees with explanation of key statements made in each interview. Doris is a 39 year old black female who had academic difficulty in completing her Master's Degree in Reading. She is currently employed as a Reading Specialist in an inner-city, low socio-economic high school. She indicated on the initial questionnaire a low job satisfaction but when interviewed, reasons for this first indicator were all personal in nature. Doris was married at the age of 22 and had the first of four children at the age of 23. She realized early that her husband was not emotionally supportive of her having both a career and children too, but she decided to "make the best of a bad situation" and opted to stay married.

She perceived that the M.S.Ed. "changed her whole life" even though it was difficult to complete. She obtained a position as a content reading specialist in a high school and this gave her a chance to be creative and "do new things." Also she began at the age of 35 to assert herself at home, making more decisions which positively affected the children. She perceived that this created better communication between her and her childen and listed her children as the focal point in her life. She felt personal "ups and downs" have not affected her negatively (in fact, this has probably been positive in job performance and job satisfaction).

Mary is a 28 year old reading specialist working in a suburban school system. Her personal and professional satisfaction curves followed closely together. At two particular "down" periods she described having violent students in the classroom and an administration who "hassled her mercilessly." Also at 26 she went through a divorce and now is doing better. She has custody of her one child; her social life is improving, as she is dating more now that her child is older. This upward personal swing is paralleled by an improving work situation in which her junior high school teaching is becoming more organized and her administration is looking upon her work more favorably.

Mary Ellen is a 39 year old reading specialist who perceives her abilities now match her job requirements. She enjoys much control over her work environment and has a principal who is very supportive of her professional endeavors. She has had marital problems since age 25 which has caused her personal life to never be above medium satisfaction. In addition, she now has problems with her teenage daughter. She has taken solace in her work and still has mentors who influence her. Her mentors have included: mother, prior principals, current principal, graduate school advisor, college French teacher. She reported that she had trouble at 35 when she first became a reading specialist. She wanted "guide answers" to school system difficulties and when she didn't get those answers she became frustrated. She has now "mellowed" in her job and is more realistic about what can and cannot be accomplished.

Sarah is a 38 year old reading specialist who was married at 22 and went through a divorce at 28. She has one son who is experiencing mild behavior problems. As a specialist, she conducts many faculty inservices but misses "relating to the childen on a personal basis." She has recently been shifted to social studies which has precipitated, a sharp decline in professional satisfaction. She is most concerned personally about her son and her relationship with him. She also stated that she would have gotten a Ph.D. in business or education if she hadn't had a son. Sarah did note that she got into social studies because she became tired of teaching reading and felt she needed a change. As stated earlier, she is unhappy she made the decision to switch from reading and now desires a reading resource position at the middle school level.

Sharon is a 30 year old reading specialist who has been teaching reading skills for five years to poor readers and says she is tired of teaching "reading per se." That is, she is tired of teaching children who are always below grade level and are especially slow readers. Sharon is engaged to be married in a few months and because of this, of course, her personal life satisfaction is high. Her professional satisfaction, however, remains quite low. She feels trapped professionally, remarking that "there is nothing else I can do." She is contemplating returning to a regular classroom next year where she will have the chance of seeing a wider spectrum of ability levels of children. Sharon has had her share of disappointment in life. She was engaged at 22 but her boyfriend was suddenly and tragically killed. She was at a low ebb between 23 and 25 both personally and professionally. She admitted her personal problems influenced her work satisfaction. From age 25, her life has been on a slow but steady upward course. She had an affair with a married man over a two year period which helped her emotionally but was ultimately unsatisfying. Her fiancee is very supportive and is central to her life and happiness at this point.

Sophie, age 35, is married with 3 children ages 8, 5, and 3. Seven days after graduating from college she was married. She quit work at 26 to care for her first baby and worked sporadically between 27 and 53 while mainly caring for three children. At 33 she "felt something was missing." She enrolled in a Masters' Program in Reading and obtained a job in an Elementary School as a Chapter I teacher. Sophie has not been personally or professionally happy for many years but in both areas she perceives her satisfaction is more positive. Sophie acknowledges her childen are still extremely important to her. She wants to "find herself" with losing the role of wife and mother. She admits that it is becoming easier to manage family, husband and career.

Conclusions and Implications

From the biographical summaries obtained, four major patterns of satisfaction emerged:

1. Personal satisfaction affects professional satisfaction;
2. Professional satisfaction was higher (5 or 6 cases) than personal satisfaction;
3. Definite sharp decline in personal and sometimes professional satisfaction at age 30. This was due to emerging career decisions and re-evaluating of "relational others;" and
4. In all cases, women viewed themselves as much in relation to "significant others" as in relation to career.

One conclusion from this study is that we cannot divorce personal life from professional life in working and judging overall work effectiveness. This also has implications for judging suc-

cess in graduate programs. The sharp decline noticed in personal satisfaction of 5 or 6 interviewees at age 30 indicates women in graduate programs at 30 may not exhibit emotional stability adequate to sustain them in programs where substantial material has to be retained.

The findings of this study also support Dimidjian's concluison that women do not focus their lives only in terms of work orientation. Like Dimidjian's professinal sample of women, this sample was attempting to balance love interests and work interests in a complex work and social environment of vascillation, guilt, pride in accomplishment, and developmental growth. Dimidjian describes the "First Crisis of Adulthood" for women as coming in the early to mid-thirties. This study supports the idea of such a crisis period. Following the self-examination period of the early thirties, women after age 35 showed renewed efforts to express themselves actively, be aggressive, be more competitive. At the same time women felt more comfortable being at times passive, submissive, and nurturant. Women at this stage seem more able to extend themselves in work and social endeavors and are more comfortable in the work place with their sense of feminitiy.

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EFFECTS OF A CONTENT AREA READING CLASS ON ATTITUDES AND PRACTICES OF SECONDARY TEACHERS

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Over the last fifteen years reading educators have convinced state legislators of the need for secondary pre-service teachers to take a content area reading class. Estes and Piercey (1973) reported that 30% of the states required a content area course for secondary majors. That figure had increased to 84% by 1983 (Flippo and Hayes, 1983).

However, questions arise as to the effectiveness of such compensatory classes. Because these classes are required there is often resistance to them by students. Also, the sheer quantity of material to be taught is a problem, given that these students typically take only one three-credit-hour content area reading class. Finally, because of the pre-service nature of these classes, students usually have little experience to help make the material presented meaningful. Given these issues, questions have been raised concerning the attitudes of these students once they become teachers.

Researchers have measured attitudes of teachers concerning the teaching of reading in the content areas. Usova (1979) surveyed teachers, principals, and reading specialists on their attitudes toward incorporating reading techniques in their teaching. He found that teachers' attitudes were less positive than either principals or reading specialists. Lipton and Liss (1978) reported results indicating that the attitudes of teachers in content groups differ significantly. English and social studies teachers had significantly better attitudes toward integrating reading strategies into their classroom than science, math, physical education, and art teachers. O'Rourke (1980) found similar results. He reported that English teachers had significantly better attitudes than math, science, and social studies teachers. In summarizing, O'Rouke raised an interesting question when he asked if positive attitudes toward teaching reading in the content areas would translate into the use of better strategies that would produce higher achievement by children.

The purpose of this study was to measure the attitudes of content area teachers in middle through senior high school who had previously taken a content reading course. An attempt was also made to determine if the content area taught affected the attitudes of teachers. Finally, this study measured differences in attitudes based on the teachers' years of experience after taking a content area reading class.

METHOD

Subjects

The subjects for this survey were former pre-service students who had taken a content area reading class at a large, urban, four-year college and were now teaching in middle, junior, or senior high schools. A questionnaire was sent to 325 of these teachers. Ninety questionnaires were returned as undeliverable. Of the remaining 235, 105 were returned.

Questionnaire

The questionnaire consisted of four subscales containing a total of 30 questions, plus a section of demographic data. This instrument was a modification of one used by Stieglitz (1983) and used a seven-point Liekert scale.

The first subscale of the survey dealt with Issues in Content Area Reading (Issues) and contained seven questions which were

both positive and negative. The second subscale contained five questions, both positive and negative, and dealt with the perceived Benefits of the Content Area Reading Course (Benefits). Subscales three and four contained nine identical questions. Subscale three dealt with the Use off Content Area Reading Strategies (Use) and asked teachers if they used any of the specific strategies taught in the course. Subscale four dealt with the Significance of Content Area Reading Strategies (Significance) and asked teachers to indicate the significance or importance of these strategies. To measure internal consistency, Chronbach's Alpha was computed and was equal to .92.

Data Analysis

Overall mean scores for the entire sample were computed for each of the subscales. In order to determine if there were attitude differences among content area groups, areas were combined based on the amount of reading (large, medium, or small amount) expected in a typical content area class. This resulted in combinations of English and social studies, science and math, and physical education, music, and art, respectively. Precedent for these groupings has been established by Dupuis and Askov (1978) and Lipton and Liss (1978). For the analysis concerning years of teaching experience after taking a content area class, subjects were divided into groups having three-years-or-less teaching experience or more-than-three-years teaching experience.

Total point scores were computed for each of the four subscales and only questionnaires with answers for each question on a particular subscale were included for the various analyses. One-way analysis of variance or t-test were used to evaluate the data for the various groups. Negative statements on the Issues and Benefits subscales were recoded for these analyses. Level of significance was established at .05 and follow-up pairwise comparisons were made using the LSD technique.

RESULTS

Overall Attitudes

The overall mean values for the entire sample for each of the seven-point subscales indicated that attitudes were positive, but not overwhelmingly so. The mean values for the Issues (4.9), Benefits (4.6), and Use (4.4) subscales were between average and slightly above average. However, the mean on the Significance subscale (5.7) indicated that the respondents felt the practices were of above average importance. This was in significant contrast to the overall mean value on the Use subscale. Evidently, the respondents felt that the strategies were important even though they did not often use them.

Group Attitudes

The one-way analysis of variance of the Issues subscale for groups revealed a significant main effect, $F(2.45) = 4.01$, $p = .02$. Follow-up comparison indicated that the English/social studies group's score was significantly higher than both the science/math and music/art groups (5.4, 4.7, and 4.4, respectively). The science/math and music/PE groups were also significantly different from one another. This indicated that those teachers whose subject matter necessitated more reading felt that content area reading was more important. This trend did not continue on the Benefits subscale. The one-way analysis of variance of this subscale was not significant, $F(2.45) = 1.98$, $p = 15$, which indicated that the scores of the English/social studies, science/math, and PE/music/art groups (4.9, 4.6, and 4.0, respectively) were not significantly different from one another.

On the Use subscale the one-way analysis of variance revealed a significant main effect, $F(2.37) = 5.43$, $p = .01$. Follow-up pairwise comparison indicated that the English/social studies, science/math, and music/art groups were significantly different from one another (4.8, 4.3, and 3.5, respectively). This trend continued on the Significance subscale where a significant main effect, $F(2.37) = 4.21$, $p = .02$, was indicated. Here, however, the English/social studies group was significantly different from the science/math and music/art groups (5.8, 5.2, and 5.0, respectively).

Teaching Experience

The t-test on the Issues subscale, $t(1.47) = 3.03$, $p = .09$, for years of experience after the content course was taken was not significant. This indicated that although the mean score for the three-years-or-less group (5.2) was higher than the mean score for the more-than-three-years group (4.6), the difference was not significant. This trend continued on the Benefits subscale with $t(1.47) = .83$, $p = .37$. Once again, mean scores for the three-years-or-less (4.8) and more-than-three-years (4.5) groups were not significantly different. The t-test for the Use subscale, $t(1.37) = 4.05$, $p = .05$, indicated that the three-years-or-less group (4.9) was significantly higher than the more-than-three-years group (4.1). Finally, the t-test for the Significance subscale indicated a non-significant effect, $t(1.37) = 1.70$, $p = .20$. Although the difference was not significant, the trend was similar to that seen on the other subscales with the mean score for the three-years-or-less group (5.8) higher than that of the more-than-three-years group (5.4). The trend indicating that the less experienced group had a better attitude overall than the more experienced group runs contrary to the effect one might expect. As the teachers in this survey gained more experience, the less important they felt content area reading was. Interpreted differently, the farther in time these teachers got from a content course, the less valauble they saw content area reading strategies.

DISCUSSION

The results of the overall sample indicated that these teachers had positive attitudes toward content area reading. However, these attitudes do not seem strong enough to initiate use of reading strategies in their classrooms. As might be expected, there were differences in attitudes of content area teachers based on the subject matter taught. Teachers whose students were expected to read the most placed the most value on content area reading strategies. Of great interest were the responses comparing the groups based on years of teaching experience after a content area reading course was completed. These results consistently indicated that the less experienced group had better attitudes than the more experienced group. This data provides information most damaging to the pre-service model of teaching and may indicate a need for more widespread implementation of the in-service model developed by Dupuis Askov, and Lee (1978). In this model university faculty worked for one year in an in-service program with content area teachers. The results of this program indicated a significant improvement in the attitudes of these teachers. Perhaps this model can be used to renew teachers' commitment to content area reading strategies.

Finally, the question raised by O'Rourke remains. Do more positive attitudes toward content area reading strategies lead to increased learning? This study did not attempt to answer that question. Further research is necessary to determine if this is so.

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TAB ITEM: ASSESSING STUDENTS' APPLICATION OF READING THEORY

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Perhaps the most significant studies which have substantiated the necessity for improved teacher education in reading were the Harvard-Carnegie reports of the early 1960's. These reports called for upgrading the pre-service and in-service training of teachers. The first Harvard report, *The Torch Lighters* (Austin, 1961), examined the collegiate preparation of prospective teachers of reading and concluded that the graduating students were not always adequately trained to undertake the responsibility of helping children master the printed word. The report also stated that development of reading concepts must be associated with real life situations to enable the college student to make the necessary transfer from theory to practice.

The Torch Lighters report also indicated a dissatisfaction with methods used in evaluating pre-service teachers. A well-constructed objective test, although valuable in assessing objectives attained in a course, had limited usefulness in assessing the process the teacher goes through in applying theory in a classroom. Results indicated that college instructors felt time constraints prohibited them from evaluating students in the way they preferred—observation in the classroom. Rather, they had to rely on written examinations covering only mastery of theory. One recommendation resulting from this study was to make use of the case study or problem-solving approach in order to give students the opportunity to apply theory to problems and ultimately to solve the problem.

The second Harvard study, *The First R* (Austin, 1963), was made with the purpose of ascertaining the conduct and content of the reading programs found in elementary schools throughout the country. The study criticized reading courses as being too theoretical and impractical, and concluded that content was too removed from realistic situations encountered in a classroom. The study recommended in part that the content and conduct of undergraduate courses in reading be revised to include the practical application of theory.

There have been attempts to develop instruments which require students to apply knowledge in a problem-solving situation regarding reading. Eugene W. Wade (1960) developed and validated a test that assessed teachers' application of reading knowledge. Burnett (1961) attempted to strengthen Wade's test, which he felt was product-based and placed no emphasis on process concerning how the solution was obtained. Burnett felt evaluation should measure the efficiency of the teacher in solving problems and include the number of errors, corrections, and the sequence of steps used to solve the problem. On the basis of the results of his study, Burnett recommended that teacher training courses include experiences which give students the opportunity to use diagnostic procedures. He also suggested that the use of the case study approach to solving classroom problems was superior to evaluation which measures the amount of factual information possessed by the students.

Along this line Nichols (1978) developed and validated a remedial reading problem-solving instrument which was a modification of a procedure called Tab Item. A Tab Item instrument was a procedure used by the Air Force to measure the proficiency of a mechanic in maintaining a radar-computer system. The procedure provided a simulated malfunction within the system and a list of all possible tests which could be performed to find its cause. Accompanying each test, hidden under a tab (hence the name), was a verbal or diagramatic description of the results the exam would obtain if the procedure was actually performed. Examinees were instruced to select any check or series of checks necessary to make a diagnosis and to be as efficient as possible (Glaser, Damrin, and Gadner, 1952). Nichols modified this technique to assess graduate level reading education students' abilities to diagnose reading problems in childern. The students were asked to perform a diagnosis on a hypothetical child. Information was provided which contained the names of tests and procedures that could realistically be available for use by a remedial reading teacher in an actual school situation. The procedures and tests listed included a range from very relevant to the diagnosis of the problem and placement to those that were quite irrelevant. Concealed next to each procedure or test were the results as they related to the hypothetical child consistent with his/her problem. If the examinee decided the test or procedure would be beneficial to "administer" a paper covering the result had to be torn off. Once the covering was removed, the test was considered to be "given." It was the student's task to choose correctly the best set of tests and procedures to identify the instructional needs of the "child." The student's performance was compared to procedures used by a panel of experts in diagnosing the needs of the hypothetical child.

One conclusion of this study was that the experience would be more valuable if the students would be forced to rely on their own knowledge rather than being provided with a list of tests and procedures available for their use. In later modifications of the Tab Item technique, students were not given the alternatives. Instead, they were required to determine what step should be taken, ask the administrator of the activity for the results of having taken that step, and then decide on the next step to take. Nichols used this modified procedure to assess reading study skills abilities of high school and freshman college students and to assess graduate level reading students.

As the procedure was used, it was found to be more useful

as a teaching technique than as a testing instrument. It seemed advantageous to use the problem-solving format in a non-testing situation in order to accommodate valuable participant interaction during the process. When used as a teaching technique, participants were asked to work through a problem in small groups. The technique was used in a federally-funded Right to Read Program to train new directors (administrators and teachers) to conduct district-wide needs assessments and write plans of action (Nichols, 1979a). It was also used to train experienced directors in updating building-level needs assessments (Nichols, 1979b).

It was also felt that this problem-solving technique could be used with undergraduate students and so it was used with education majors who minor in reading at Metropolitan State College. The reading minor sequence of courses requires completion of two three-hour basic reading theory courses prior to a three-semester-hour practicum. During the practicum students teach developmental reading under the supervision of classroom teachers. It was felt that the Tab Item technique would give students the opportunity to apply their knowledge in a less threatening environment before they began their practicum. It was hoped this activity would make the students more comfortable with their first attempt to apply their knowledge in a classroom and that it would give the college instructor insight as to which students would need closer supervision and more guidance during the practicum.

The development of the format of the problem-solving activity came from information described above. The activity centered around a hypothetical fourth grade teaching position which opened midyear. The college students were told they had been hired in December to fill the position. The newly hired "teacher" met with the "principal" and found the "principal" was dissatisfied with the reading progress made under the "teacher" being replaced. The "principal" expected some immediate improvements in the situation in the "classroom."

The newly hired "teacher" had one week to work in the classroom, visit with the "principal," and and look over records. During this time this "teacher" had to determine how to strengthen the reading instruction in this hypothetical classroom.

The 21 undergraduate reading minor students who participated in this activity were divided into small groups and were given verbal and written directions on how to proceed. The steps were as follows:

1. Decide, as a group, what information needed to be gathered.
2. Gather the information (come up to the administrator of the activity and ask for the information). There were 22 different pieces of information available to the college students. The items covered testing results, attitudes of parents and students, school/home contact, availability of resources, and the reading program in the hypothetical classroom.
3. Discuss the information.
4. Decide, as a group, what were the implications of the information.

The procedure continued with the groups deciding on the next piece of information until all the desired information had been collected and a plan developed. This ended the group activity.

Next, individual students received a set of questions to answer. The questions asked about specific hypothetical students in the "classroom" whose reading needs had not been met adequately by the previous "teacher." Students were asked to comment briefly on tentative plans for the hypothetical students. Next, they were asked to list weaknesses in the "reading program", and finally, outline a plan for strengthening the "program."

A class discussion followed and the college students discussed each part of the questionnaire with direction and input from the college instructor.

The problem-solving activity came about as the result of a desire to bridge the gap between the two theory classes and the reading practicum. The project was not intended to be research oriented; therefore, evaluation was conducted informally by assessing the reactions of the students and by observing the process in order to confirm or reject the value of the idea.

Students' reactions were positive. Eighteen students wrote anonymous comments after completing the exercise. All 18 expressed favorable reactions to the experience. The most repeated comment expressed a heightened sense of their own competence in utilizing the resources they had accumulated from the two reading theory classes. They also reported gaining a feeling of confidence about entering the classroom which resulted from a demonstrable application of knowledge.

Selected student comments included:

> This simulation type of activity was very helpful. It was a question that has been on my mind for weeks as I approach graduation—"what will I do when I am handed a classroom assignment?" This activity helped me to define some steps I always knew I would take but was never made to really think about it. I wanted to go on—to make some decisions and plans. It was extremely helpful.
>
> I thought this exercise was excellent. When it was first presented I thought it sounded impossible. I didn't know where to start; it was kind of frightening. As I started gathering materials, more and more ideas came into mind and by the time I was through I was ready to jump into the fourth grade class and start.
>
> The hypothetical problem-solving task was thought-provoking. It seems we, as prospective teachers, are not often asked to apply knowledge of theory and/or process. This type of learning activity seems to be extremely valuable.
>
> This activity was good experience for us. Problem-solving is not done very much at all in Metro classes and yet it is so important.
>
> It was interesting to make practical use of the information we've learned through the education program. It required ***thinking,*** not just memorization and low level stuff.

From observation of the process the following conclusions could be drawn:

1. The experience promoted interaction among the participants. Students were enthusiastic in their efforts to solve the problem. They were eager to discuss the information gathered and were active in their efforts to interact with one another.
2. Participation in the activity gave participants the opportunity to apply knowledge while still in the college classroom.
3. The class discussion gave the college instructor the opportunity to give guidance in the application of theory in a training situation prior to entry into an actual classroom.
4. Students gained confidence in their ability to teach reading.
5. Anxiety about entry ino the classroom as a reading teacher was reduced.

One final point should be mentioned. The students were reluctant to stop the collection of information and begin the process of using the information to develop a plan. They had, however, gathered a significant amount of relevant information and the time constraints of the two-hour seminar forced the administrator to insist that each student begin work on the individual questionnaire and the plan of action for improvement of the "program." Originally, this was viewed as a weakness of the instrument when used in a two-hour time block. However, after the class discussion and a review of the students' plans of action, it was found that the students did not need any more information in order to make good decisions regarding the hypothetical class. The students' reluctance to take action came at the point where theory had to be applied and decisions made. Shortly after being told no more information could be gathered, the students became deeply involved in making notes and developing plans. It was felt that the students were hesitant to start the application of theory to practice. Once forced beyond this point, they had begun the process of using theory and, thus, had started to bridge the gap between theory and practice.

The quality of the students' plans for strengthening the hypothetical reading program, the assurance with which the students presented their suggestions for improvement, and their written and verbal expression of newly gained confidence indicated the problem-solving experience had satisfied its purpose. The authors feel that the Tab Item modification is an approach which can assist students in bridging the gap between theory and practice. Further research is needed to determine if the Tab Item technique leads to more effective use of teaching strategies in the classroom.

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EFFECTIVENESS TRAINING FOR ELEMENTARY TEACHERS OF READING

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A primary concern of those who work with future teachers is introducing them to effective teaching strategies. When they leave the university and our methods courses, they need not only to know how to define "individualized instruction," but also to know how to meet the needs of individual students in their classes. In order to give students an understanding of effective teaching, it is necessary to know something about research findings in this area.

Educators have access to approximately 80 years of research in teacher effectiveness. Early research was largely subjective in nature. It focused on instructional strategies, looking for *the best way* and *the best materials* to use. Teacher characteristics such as sex, race, age, years of experience and pesonality factors were closely examined in an attempt to find universal traits of an effective teacher.

A concern over teacher preparation was expressed as early as 1893 by J.M. Rice (1893), a pediatrician, who toured America as a critical journalist. He felt that incompetence in the teaching profession called for better preparation in the normal or teacher-training schools of our country.

A.C. Boyce (1915) pointed out the need for objective measures of teacher effectiveness. He found that most teacher ratings were done by supervisors who responded with "general impressions" of teachers' abilities.

A.S. Barr (1929) attempted to isolate teacher behaviors discriminating effective from ineffective teachers. Although he collected a great amount of information, his study was of limited value since the ultimate criterion for judging effective teaching behavior was based on supervisory judgment—a subjective criterion. It was a hallmark investigation, however, since it focused on using direct observation of teacher and pupil behavior in assessing teaching effectiveness.

The development of an instrument for measuring teacher and pupil behaviors through direct observation by Medley and Mitzel (1958), and the interaction instrument of Flanders (1960) opened the door to new possibilities in research. Most researchers at this time were operating independently and investigations often lacked reliability.

During the late 1960's and 1970's attention began to focus on insructional activities and how these affected pupil achievement. Actual teaching activities were referred to as process variables. These were the variables which could be observed or reported on in actual classroom settings. Such variables as teacher-initiated talk, pupil-initiated talk, and time spent on instructional tasks were measured. The product dimension of the investigations referred to pupil achievement gains. The focus was shifting from broad, difficult-to-define variables, to concern over teacher-pupil interaction.

In an attempt to gain information on working more effectively with disadvantaged youngsters following public school integration, the National Institute of Education allotted large sums of money to teacher effectiveness research. (Brophy and Evertson, 1974; Good and Grouws, 1977; McDonald and Elias, 1976; Soar and Soar, 1972; Stallings and Kaskowitz, 1974; and Tikunoff, Berliner, and Rist, 1975). This funding enabled researchers to conduct studies on a large scale, and encouraged

cooperation and coordination among researchers. As a result, improvments in research design began to appear, and meaningful data focusing on instruction in basic skills in elementary classrooms were gathered.

Three experimental studies based on the findings of these NIE studies regarding teacher instructional behaviors in skill teaching in the areas of reading and math in the elementary grades followed (Anderson, Evertson, and Brophy, 1978; Good, 1978; Program on Teaching Effectiveness, 1978). A major feature of this research was a training element, in which experimental teachers were trained to use particular instructional strategies and classroom management procedures found to be associated positively with student learning in reading and mathematics. Each study found statistically significant results favoring treatment teachers over control teachers in producing significant pupil achievement gains on standardized achievement tests.

Some of the instructional process variables that were a part of these experimental studies were grouped to form a set of instructional strategies that were used to train experimental teachers in the present sudy. The instructional process variables were grouped into five categories: Classroom Environment, Introduction of the Lesson, Lesson Presentation, Questioning, and Feedback. Classsroom Environment variables are those variables within the classroom environment over which the teacher has some control, such as seating pupils where their behavior can be monitored by the teacher at all times, grouping pupils for instruction, and managing group and classroom behaviors. Included in Introduction of the Lesson would be variables such as using attention-getting techniques, setting the lesson purpose, recalling to pupils prerequisite learning, and presenting vocabulary. Variables related to Lesson Presentation are demonstrations or explanations of new material, step-by-step descriptions of processes involved, utilization of illustrations and written examples reflecting children's experiences, organization of information, assignment of application tasks, and guided discussion of written work. Variables related to Questioning are those of student selection techniques, as well as those variables related to the types of questions asked, whether lower order, higher order, or probing questions. Included in feedback would be variables related to pupils' answers to questions asked, whether right, partially right, or wrong.

These variables were incorporated into a training manual which was used as the primary medium of instruction in the present study. Previous research has suggested that training teachers of reading through the use of a training manual has been effective in changing teachers' instructional behaviors, and has resulted in increased pupil learning.

This investigation examined the effect of some of these research-based instructional strategies on pupils' reading achievement in the second, third, fourth, and fifth grades. A sample of twenty-four elementary teachers in a central Texas school district were randomly assigned, stratified on grade level, to one of three groups: experimental observed ($n = 8$), experimental nonobserved ($n = 8$), or control observed ($n = 8$). The experimental treatment was designed to enhance teachers' use of reading instructional strategies which have been associated with pupils' reading achievement. The control treatment involved use of procedures for interpreting pupils' reading test performance. Experimental observed and control observed teachers were observed six times during their classroom reading instruction, over a nine week period, using the *Group Reading Interaction Pattern Observation Instrument* (Mangano, 1982). Pupils were pretested and posttested with the Prescriptive Reading Inventory (McGraw-Hill, 1972). Linear regression procedures were used to compare pupil achievement in the three groups and to test for significant differences of socioeconomic groups within experimental teachers' classes. Observational data gathered on teachers' use of the instructional process variables were correlated with adjusted pupil reading achievement scores to specify the strengths of association between the two. Similar procedures were employed to compare socioeconomic groups within experimental classes, socioeconomic groups with control classes compared to those within experimental classes, primary classes with intermediate classes, and the "more effective" with "less effective" classes.

There was no significant differences found among treatment and control groups. Consequently, data were examined for differences among teachers. According to Cronbach and Snow (1981), teachers tend to conserve and enhance already apparent talents in classes in which pupil posttest scoes correlate strongly with pretest scores. Variance within these classes tends to increase, and the slope of the plotted regression equation is steep. In classes in which pupil posttest scoes correlate weakly with pretest scores, teachers have worked to overcome pupil deficiencies. Variance within these classrooms tends to decrease, and the slope of the plotted regression equation is less steep.

Following these guidelines, linear regression procedures were used to establish the regression slope for each teacher. Pretest scores were used as the predictor variable and posttest scores were used as the criterion variable in computing these equations. The equations were then graphed. Utilizing the guidelines suggested by Cronbach and Snow, eight classes displaying a steep slope and five classes displayng a flatter slope were identified.

Data regarding the frequency of use of reading instruction behaviors were available only on teachers who were observed. The identified classes with steep slopes, designated "less effective" teachers, included six observed classes and two nonobserved classes. The identified classes with flatter slopes, designated "more effecttive" teachers, included three observed classes and two nonobserved classes.

Pearson product-moment correlation coefficients for the criterion variable total reading and the instructional process variables, which were summed over observations for the selected observed teachers who exhibited a steep slope when compared with other teachers and for those identified observed teachers who exhibited a flatter slope when compared with other teachers, were computed.

Significant positive correlations for "more effective" teachers were found between pupil total reading achievement and the instructional process variables 1) engaging sudents in learning and 2) asking direct questions. Significant negative correlations were found between achievement and the instructional process variables 1) asking rhetorical questions and 2) giving non-academic commands. A significant positive correlation was found for "less effective" teachers between the teacher behavior of calling on volunteers for answering during questioning and pupil total reading achievement.

Coding sheets that had been completed by observers during classroom observations were studied in order to find instructional process patterns common to all three classrooms. Particular strategies having to do with question and answer techniques emerged. Common to all three classrooms was the pattern of asking a question (direct or open-ended), calling on a student (pre-selected or non-volunteer), and receiving an answer (right, wrong, or incomplete). Right answers were followed by positive feedback; wrong or incomplete answers were followed

by either a restated or a probing question. Positive feedback almost always followed correct answers to questions that had previously been answered incorrectly. Two of the three teachers followed a consistent order in calling on students; the same two teachers continued to probe students who gave incorrect or incomplete answers until students produced a correct response. This pattern of "question, answer, feedback or probing question" was the only instructional process pattern which emerged. All three teachers employed a strategy for engaging students in the task at hand; however, since this was not followed by a common behavior or activity, no instructional process pattern resulted.

Several conclusions can be drawn from the study:

1. Indications are that the reading instructional strategies of engaging students in learning and asking direct questions can be effective in increasing pupil achievement gains.
2. There were no overall findings regarding reading groups, due to the absence of data. However, two of the three more effective teachers who were obseved utilized different reading groups within the classroom.
3. Participants in an experimental research study should have some incentive for participation. Expecting already overworked teachers to be enthusiastic about learning and implementing new strategies in their classrooms was unrealistic.

Based on the findings of this study and conclusions drawn, the following recommendations are made:

1. This study should be replicated in other experimental situaitons that include an incentive for teachers who participate in the study.
2. It is suggested that experimenters emphasize instructional process patterns as opposed to teaching a set of strategies in order to encourage implementation of the strategies in the classroom. One instrucitonal process pattern might be the pattern using questioning techniques which was suggested by the data in this study: asking a question, receiving a response, followed by either positive feedback for a correct answer, or a probing question for a wrong or incomplete answer. Another instructional pattern might include lesson presentation strategies: engaging students in the lesson, setting a purpose, recalling past learning, and giving information.
3. Grouping students for instruction should be an inplace technique prior to beginning a replicative study. Variations on grouping strategies can be implemented more readily than introducing grouping as a new strategy.
4. The focus of replicative studies should be on one instructional pattern at a time. This would limit the strategies to be introduced, to be learned, to be implemented, to be observed, and to be analyzed. All phases of the study should benefit from a smaller scope.
5. Instructional time with teachers should be during inservice time, not during the teachers' only conference period. All experimental teachers should receive instruction at one time. All control teachers should receive instruction at one time.
6. Instruction, observation, and feedback should be an alternating pattern throughout the study; this would help insure implementation of the instructional strategies by providing feedback on a regular basis.
7. The different strategies required for effective teaching in different skill areas in the teaching of reading should be investigated.
8. Further investigations comparing teachers who reduce the variance on reading achievement test scores among pupils in their classrooms with teachers who increase the variance on reading achievement test scores among pupils in their classrooms should be made.

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REACTION: EFFECTIVENESS TRAINING FOR ELEMENTARY TEACHERS OF READING

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Research as the type done by Shaver and Wise is greatly needed. With the increasing emphasis on teacher accountability, teaching skills that are characteristics of the effective teacher should be a component of every teacher training program. There are a number of teachers that seem to naturally possess these skills, but we all know that there are quite a number that could benefit from such training. As Shaver and Wise point out simply telling students how to "individualize instruction" does not always work. Many teachers fail miserably because their first experience using certain strategies comes in an on-the-job situation, and rather than try the strategy again they give up and resort to using methods by which they were taught.

One of the problems in a study of this nature is finding subjects to participate. Perhaps the small sample size is the reason for a lack of significance between the treatment and control groups. Shaver and Wise recommend that in the future teachers be given incentives for participation and that training be during inservice time. These recommendations are certainly necessary to alleviate some of the possible negative feelings of the participants and to increase the size of samples.

A second problem that could have attributed to a lack of significance was the number of instructional processes involved in the study. In the time span of the study it might have been impossible to adequately train teachers on so many instructional process variables. Shaver and Wise wisely recommend that in replication studies that the focus should be on one instructional pattern at a time.

For replication purposes, it would have helped to give more detail about the training of the teachers. After reading the recommendations, one can infer that teachers were trained on their conference periods. Yet one does not know how many hours were involved or what materials were used. Were the process variables treated equally or was more time spent on one variable?

Shaver and wise use terminology as "significant positive correlations" and "significant negative correlations" without mentioning the size of the correlations. In a study of this nature a correlation can be small and significant without being useful for prediciton purposes. It would be beneficial to know the magnitude of these significant correlations.

AN ANALYTIC APPROACH TO TEACHING MICROCOMPUTER PROGRAMING TO CLASSROOM TEACHERS

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Despite the recent proliferation of microcomputer hard- and software in American schools, most teachers are not using the new technology to its fullest advantage. In order for teachers to feel entirely comfortable with computers, be able to use them for their individual objectives, and be able to influence commercial software production, they must know something about programing.

This report will describe an analytic approach to teaching programing to novices. It is intended for teacher educators who want to introduce their students—pre- or in-service teachers—to the basics of programing. It is a simple approach, which can be used by teacher educators who themselves lack extensive knowledge of programing.

The Analytic Approach

This analytic approach to teaching programing consists of five steps. Some involve teacher preparation; some involve students' working with microcomputers; and some involve student-teacher discussion that takes place away from the computers.

First, decide on a short list of commands which you will teach. They should be commands that are particularly useful for the kind of programs you expect your students to write and whose effects in the running of a program are fairly obvious.

Second, write a program that is short enough (not more than 25 line statements) that a listing of the program can be printed on a single page for easy scrutiny. This program should use all the commands from your list. Print a sample run of this program that is also short enough for easy scrutiny, but which takes more than one possible route through the program (e.g., activating loops by giving wrong responses as well as correct ones). (You may also want to write a second, longer program, which is better suited to classroom usage but still employs only the commands in your list. This program should do more, but only through variations on the 'basic' procedures that are evident in the first, shorter program. Both will be, in that sense, simple programs. Print a listing of the second program and more than one sample run.)

Third, allow the students some experience running any *program—yours from the second step above or a commercially available program—in order for them to get over initial nervousness and to experience the interaction between user and computer. This will help them to see that both user and computer supply some of what appears on the sceen or in a print-out of a run.*

Fourth, get away from the computers and distribute copies of your list of commands, the listing of your short program, and its sample run. Discuss which lines in the sample run are generated by which line statements in the program. Encourage understanding that (a) the computer reads program line statements sequentially; (b) that some lines in the sample run are generated by the computer and some by the user; and (c) that because of (a) and (b), the entire sample run can be accounted for by tracing the interaction between the program's directions to the computer and the user's inputs. You and your students define—by example and by definition—the commands on your short list, generalizing from your detective work (the "tracing" mentioned above.) (If you have written a second, longer program, your students may then be ready to examine it and its sample run, as well.)

Fifth, have your students return to the computers to run your program (or programs) *themselves, consulting their print-outs of programs and runs in order to refine their definitions of commands. Students may then try writing their own programs using the commands they have defined.*

An Example of Instruction Using the Analytic Approach

The approach outlined above was used in a graduate course entitled "Techniques and Resources for Reading Instruction," which met for three hours each week for fourteen weeks. Ten

weeks were devoted to study of traditional reading-teaching resources; four weeks were designed as a mini-course in microcomputer programing for classroom reading instruction. During those four weeks, the class met in a microcomputer laboratory equipped with twelve Apple IIs. There were twenty-four students in the class, eighteen of whom had never before sat down at a microcomputer.

As step one, the instructor (the author of this article) compiled a short list of commands to be learned (see the left side of Figure 1). As step two, he wrote a short program and a long program using those commands and printed sample runs of those programs (see Figures 2, 3, and 4). Step three—allowing students experience running programs—was accomplished in the first hour of the first weekly session when an Apple sales representative demonstrated commercially available software. Students were introduced to the components of a microcomputer and had opportunities to run prepackaged reading and social studies programs available from Apple. After the representative left, the class discussed the appropriateness and usefulness of the programs and sources of information about software (e.g., Devall, 1983; Love, 1982; Van Diver & Love, 1981; Wright, 1983; and Wyland & Graham, 1981, 1982).

The remainder of the first session and the opening hour of the second were devoted to step four. Copies of the instructor's list of commands (see the left side of Figure 1), his short program, "*A* Words" (see Figure 2), and a sample run of that program (see Figure 3) were discussed. Though "*A* Words" has little value for actual reading skill instruction or reading skill application, its brevity and simplicity make it a good vehicle for demonstrating the relationship between a program and what happens when the program is run.

Two explanations of the sample run encouraged fundamental insights about programs: (1) that run lines preceded by] or by ? were supplied by the user and (2) that all other run lines were supplied by the computer following the program's directions. This kind of tracing of the interaction between the two followed: "The user entered RUN. The computer printed 'THE CAT ATE THE BARK./WHICH IS THE SHORT A WORD?' because—though program lines 2-30 don't tell the computer to print anything—the next two lines, 35 and 40, tell it to print A$(4) and to print 'WHICH IS THE SHORT A WORD?' And A$(4) has already been identified (in line 30) as 'THE CAT ATE THE BARK.'"

A discussion followed about the value and nature of a remark statement (line 2), the usefulness of a screen-clearing command ("HOME" in line 5), the difference between a variable (A$(4) in line 35) and a statement ("WHICH IS THE SHORT A WORD?" in line 40), the nature of an array (lines 10-30), and the reason for skipping numbers when numbering line statements during the writing of a program—it allows the programer to insert additional lines when revising the program. The usefulness of string variables (A$ rather than A) for a reading instruction program—they can be identified using letters as well as numbers—was discussed. Discoveries were made about input statements (e.g., lines 50, 90, and 130), if-then and multi-command line statements (e.g., lines 60, 70, 100,110, 140, and 150), and GOTO. The following kinds of explanations were given: "After printing 'WHICH IS THE SHORT A WORD?' in obedience to line 40, the computer is waiting at line 50 for input from the user. The user then supplied 'ATE.' The computer then supplied 'WRONG/TRY AGAIN/THE CAT ATE THE BARK./WHICH IS THE SHORT A WORD?' because line 60 did not apply (the user had supplied ATE rather than CAT, had given a name for the variable B$, but not the one called for by line 60), but line 70 did apply (the name the user gave for B$ does not equal [< >] CAT). So the computer did all that line 70 commands it to do: printed the equivalents of A$(1), A$(2), and A$(4)—all of which it knows because it has lines 20, 22, and 30 in its memory—and printed 'WHICH IS THE SHORTA WORD?' because 'GO TO 40' sends it back to line 40. As long as B$ does not equal CAT—as long as a wrong answer or wrong name for B$ is given—the program will end up again at line 50 waiting for another try. The computer will know a correct answer when it sees one (i.e., a correct name for B$) because it will compare any B$ first with information given in line 60. The students defined the commands in the instructor's short list for themselves during the walk-through of the sample run (see the right side of Figure 1 for examples of their definitions).

As a continuation of step four, this class received a second sample program, "Comprehension Helps for an Expository Text," which has more merit for reading skills instruction and application, but is no more complicated than "*A* Words." It presents the user with a paragraph about fitness and exercise, allows him/her to ask for explanations of and/or paraphrases of numbered parts of the paragraph, and asks comprehension questions about the text. The program runs to more than 100 lines, but uses only the few commands with which the students became familiar from "*A* Words." The class received copies of and dicussed two runs of this long program. One sample run was relatively short (only 22 lines) because the user did not choose any of the comprehension helps. Another sample run was several pages long because the user requested every help available and — after making mistakes in response to comprehension questions — was reshown appropriate comprehension helps (see Figure 4 for portions of the longer sample run of this program).

With the list of sample commands which they could include in their own programs and a few other commands (e.g., RUN, LIST, LOAD, and SAVE), which they were given so that they could talk to the computer while writing and trying out programs, most students were ready for step five, running the sample programs on their own and trying to write their own programs.

Student-written Programs

The students' first programs tended to be immitations of the short program used for instruction ("A Words"). They wanted to see for themselves that the commands worked according to the definitions they had written during the analysis phase of instruction. Most students discovered important procedures which were not made explicit during the analysis, such as being sure to number each program line statement, to use quotation marks in PRINT statements, and to include the word THEN in IF-THEN statements. The most common early improvement over the short sample program was judicious insertion of HOME to clear the screen before displaying a new task for the user. Once they gained confidence, most students went beyond immitation. Some learned additional commands from instruction in class as well as from books (e.g., Berenbon, 1980; Blackwood, 1983; Brown, 1982; Campbell, 1982; Goldstein & Goldstein, 1982; and Sanders, 1983) and from friends. They included commands to introduce sound and graphics, to vary the speed of the computer's displaying a text, and to give the user predetermined amounts of time to read a text before clearing the screen.

Students wrote "skill-and-drill" programs for contractions, rhyming words, inflectional endings, compound words, etc. Among the several programs which went beyond "skill-and-drill," was a lesson on making analogies. It addresses the user by name; models the thinking involved in completing an analogy; teaches a standard form for writing analogies; and allows the user two mistakes in *completing* each analogy before giving the right answer, but immediately gives the correct standard form when the user makes a mistake in *writing* an analogy.

Summary

This approach to teaching programing is simple, it allows for variety, and it has been used successfully. By keeping the initial content (commands-to-be-learned and sample programs) simple, it is usable by instructors who may have only basic programing knowledge themselves; it allows easy analysis of that content in the important discussion step; and it gives students what they need to have early and easy successes in their interaction with the computer.

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FIGURE 1

Short List of Computer Commands (left) with Definitions Generated in Class (right)

REM	Self-reminder; note to the programer; only appears in the listing of the program, not in a run.
HOME	Clears the screen.
DIM $( ) _ $(1) _ $(2) etc.	An array; gives a number of possible things the variable (the letter that goes in all the blanks) can stand for; you can use any of the variables as often as you like by just giving the A$(1) or A$(2) etc.
PRINT " "	Computer will print what is in quotes.
PRINT _$ or PRINT _$( )	Computer will print whatever statement you have told it that A$ orB$ or A$(1) etc. stands for.
INPUT _$	Something the user types in; then _$ means whatever the user typed.
IF _____ THEN ___ ____:_____ _____:___	If whatever follows IF is the case, then the computer will do whatever you tell it to do following THEN: you can tell it to do more than one thing if you separate commands within a line statement with colons.
GOTO	Tells the computer to skip ahead or skip back, to go to whatever line you say after GOTO.
END	Lets the computer know the program is over, so it can be told by the user to run it again or run some other program.

FIGURE 2

Short Teacher-written Demonstration Program, "*A* Words"

```
2     REM LONG A, SHORT A, R-CONTROLLED A, AND
      COMPR. QUES.
5     HOME
10    DIM A$(5)
20    A$(1) = "WRONG"
22    A$(2) = "TRY AGAIN"
24    A$(3)= "RIGHT"
30    A$(4) = "THE CAT ATE THE BARK."
35    PRINT A$(4)
40    PRINT "WHICH IS THE SHORT A WORD?"
50    INPUT B$
60    IF B$ = "CAT" THEN PRINT A$(3):
      PRINT A$ (4): GOTO 80
70    IF B$ < > "CAT" THEN PRINT A$(1): PRINT A$(2):
      PRINT A$(4): GOTO 40
80    PRINT "WHICH IS THE LONG A WORD?"
90    INPUT C$
100   IF C$ = "ATE" THEN PRINT A$ (3): PRINT A$(4):
      GOTO 120
110   IF C$ < > "ATE" THEN PRINT A$(1): PRINT A$(2):
      PRINT A$(4): GOTO 80
120   PRINT "WHAT DID THE CAT EAT?"
130   INPUT D$
140   IF D$ = "BARK" THEN PRINT A$(3): GOTO 160
150   IF D$ < > "BARK" THEN PRINT A$(1): PRINT
      A$(2): PRINT A$(4): GOTO 120
160   END
```

FIGURE 3

Sample Run of "*A* Words"

```
]RUN
THE CAT ATE THE BARK.
WHICH IS THE SHORT A WORD?
?ATE
WRONG
TRY AGAIN
THE CAT ATE THE BARK.
WHICH IS THE SHORT A WORD?
?BARK
WRONG
TRY AGAIN
THE CAT ATE THE BARK.
WHICH IS THE SHORT A WORD?
?CTA
WRONG
TRY AGAIN
THE CAT ATE THE BARK.
WHICH IS THE SHORT A WORD?
?CAT
RIGHT
THE CAT ATE THE BARK.
WHICH IS THE LONG A WORD?
?BARK
WRONG
```

TRY AGAIN
THE CAT ATE THE BARK
WHICH IS THE LONG A WORD?
?ATE
RIGHT
THE CAT ATE THE BARK.
WHAT DID THE CAT EAT?
?BARK
RIGHT

FIGURE 4

Portions of a Sample Run of Longer Teacher-written Demonstration Program, "Comprehension Helps for an Exository Text"

]RUN
READ THE TEXT BELOW.
IF YOU WANT HELP FOR NUMBERED PARTS OF THE TEXT,
TYPE HELP AND THE NUMBER.
WHEN YOU NO LONGER WANT HELP,
TYPE NO HELP.

(A text about fitness and exercise follows. The first two numbered sections of the text read: (1) ENDURANCE FITNESS FURNISHES MANY BENEFITS TO THE CARDIOVASCULAR SYSTEM. (2) THE TESTING AND WORKING HEART RATES FALL, FOR EXAMPLE,...)

?HELP 2
NOW THE AUTHOR TELLS SOME OF THE WAYS THAT EXERCISE LIKE RUNNING HELPS THE HEART. ONE IS THAT 'THE TESTING AND WORKING HEART RATES FALL'. THAT MEANS THAT YOU CAN WORK HARD WITHOUT MAKING YOUR HEART SPEED UP SO MUCH.
WHOSE HEART WILL BEAT FASTER WHILE CARRYING A BOX OF BOOKS UP THREE FLIGHTS OF STAIRS—A RUNNER'S OR A NON-RUNNER'S?
?A RUNNER'S
WRONG. LOOK AT THIS.
NOW THE AUTHOR TELLS SOME OF THE WAYS THAT EXERCISE LIKE RUNNING HELPS THE HEART. ONE IS THAT 'THE TESTING AND WORKING HEART RATES FALL'. THAT MEANS THAT YOU CAN WORK HARD WITHOUT MAKING YOUR HEART SPEED UP SO MUCH.
WHOSE HEART WILL BEAT FASTER WHILE CARRYING A BOX OF BOOKS UP THREE FLIGHTS OF STAIRS— A RUNNER'S OR A NON-RUNNER'S?
?A NON-RUNNER'S
RIGHT
CONTINUE READING THE TEXT.
IF YOU WANT HELP FOR NUMBERED PARTS OF THE TEXT,
TYPE HELP AND THE NUMBER.
WHEN YOU NO LONGER WANT HELP,
TYPE NO HELP.

THE NEW READING CIRCLE: PROGRAMMER, COMPUTER, USER

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When we face the future, we can see that a number of changes in educational practice are obviously on their way. One of these is, of course, increasing use of the computer by educators. The fact that *in our first ARF meeting only one presentation dealt with computers whereas in this meeting six presentations do so* testifies to our consciousness of its emerging role.

Yet our usage is not necessarily educationally sound. Last week a teenager told a graduate student observer that he spent all of his Chapter One computer lab time working on a program that he knew by heart because if he raised his hand to show that he'd finished, he'd have to do workbook lessons which he intensely disliked. He didn't even have to read the screen in order to know what letter to press on the keyboard, yet he persisted for a full class period. It's true that he had been much less of a discipline problem on days when his class went to the compuer lab (so we later learned), but it's also true that he had learned little besides a new way to kill time.

In order that we prevent unsound practices in using the computer to teach reading, we need to examine some of the unsound practices that preceded the computer's arrival in our classrooms. A few are listed below:

1. Instruction often has been based upon the same limited content (stories or passages) for all pupils.
2. Instruction often has been devoted primarily to skills of dubious value in arriving at the meaning of printed material.
3. Instruction has often required previously acquired skills which were not yet learned.
4. Instruction has often been offered at inappropriate readability levels.
5. Instruction has often required reading small print, with insufficient leading, and/or blurred text; and doing so in poorly lighted rooms.
6. Instruction has often required the completion of work on ditto sheet exercises unrelated to the tasks or context of the lesson being presented, and having doubtful educational value.

And, not so surprisingly, these unsound practices are not necessarily eliminated when the school district buys computers. In fact some of them may become more common when computers are first purchased. One example is the blurry print often read by pupils experiencing computer-persented text on an old TV set that the school district should have retired years earlier. Another is the creation of a computer lab with one wall of windows without window shades and two bright rows of flourescent lights overhead. This usually results in squinting and unusual body postures.

Principals often say that parents are pressuring them to bring computers into classroom use. Parents buy computers and donate them to schools; they support school-board purchases of computers, and they ask, "Why isn't my child's class getting to use the computer?" whenever they hear that some other child's class is doing so.

Yet parents often don't know the meaning of such words as "software," or "coursewase," or "documentation;" words of utmost importance to the computer-using teacher. They think (and so do some educators) that when you buy the computers, the rest is up to the teachers. How wrong can they get?!!!

By not setting aside at least as much money for programs and related non-electronic materials as that used to purchase the equipment, the buyers limit their teachers to the same niggardly supply of materials with which to teach as most teachers are accustomed to having in paper materials printed in ink. An inadequate supply of programs (or software) is analogous to an inadequate library for augmenting the reading program. Without programs, computers are just a new kind of chalkboard, writing pad, or projector.

Since most programmers are science/mathematics oriented educators, home hobbyists, or computing professionals; the programs they design often are considered weak, offensive, or

laughable by professional reading educators. Reading educators want to be sure that the program (for beginners) which uses "smiley-faces" for rewards (reinforcement) doesn't also include instructions written at a very difficult reading level. Reading educators want clear directions, wide margins on the screen, lower case letters whenever possible, spaces between lines of print, limited use of colored graphics (when the text should be the central focus of the learner), and learner control of the length of time that any display (including graphics, printed text, or both) is on the screen. Reading educators are concerned about color bleeding around letters (which makes it virtually impossible to distinguish between W and H or M and N), and about the number of wrong answers allowed before a hint or prompt appears.

This expectation of education expertise (especially reading expertise) on the part of those producing programs has led to the often repeated query, "Where's the good software?" It has also led dozens of computer-knowledgeable reading educators to reply, "There just isn't much!" The problem has been in getting programmers and users together. It is not necessarily the programmer's fault.

Yet there is a great quantity of software available to the educator who knows how and where to look for it. Just as reading teachers have found the newspaper to be an effective material for a variety of purposes in teaching reading, so can non-educational computer programs be directed to educational uses. And educational computer programs can be used for purposes and in ways other than those for which they were designed.

Some reading teachers, for example, sit at the computer or terminal with their students and interact with the student just as they would if the student were reading to them from a book. Some introduce computer lessons to their pupils, just as if the computer program content was from a content area text or was a story from a basal reader. Some teachers print simplified program directions on cardboard and tape the cardboard to the side of the display screen. Some teachers teach monitors who then teach fellow pupils to program or copy programs in BASIC as a means of teaching visual discrimination and precise sequencing of events. All this adds up to the fact that creative reading teachers can overcome many deficiencies in programs created by non-educators. *Their teaching ability can make weak programs perform effectively.*

Moreover, many reading teachers have become programmers and their work is beginning to find its way to the marketplace and into the classroom. Furthermore, an increasing number of long-time educational publishers are beginning to market electronic educational materials and, as one might expect, their experienced educational editors and production staffs are contributing to a general improvement in the instructional materials which computer buffs called "software." And finally several rather new educational materials producers have demonstrated their ability to produce quality computer programs for education.

The long time producers of educational material and the successful new producers have four things in common:

1. They involve educators in the planning of programs—right from the beginning.
2. They hire the best programmers that money can buy.
3. They conduct field tests—tryouts of their programs by teachers in classrooms of ordinary kids.
4. They carry out sound educational marketing strategies because long-term satisfaction of school users is the only way to guarantee staying in business.

These strategies include not only sales and service, but also assessment of other needs which can be met by the publisher.

And in these four steps, we see the new reading circle in action. Instead of learning to program the computer, the reading professional is more often telling the programmer what it is that he would like the program to do. Instead of creating an educationally unsound program, the programmer thus creates a sound one. The publisher gains sales from marketing sound programs and the pupil, the eventual user, benefits most of all.

PROJECT MAFEX: REPORT ON PRESERVICE FIELD EXPERIENCES IN READING EDUCATION

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Objectives

Project MAFEX (Meta-Analysis of Field Experience) was a research study funded by a grant from Louisiana State University. Its purpose was to synthesize the results of all research related to teacher education field experience programs. Over the past ten to fifteen years many college and university teacher education programs initiated procedures to give prospective teachers an opportunity to observe or participate in experiences with precollege students. This type of field experience program is deisgned to expose preservice teachers to the working of the public or private schools as early as possible during their college experience, either to facilitate a career choice or develop skills and attitudes useful to future teaching. These experiences range from simple classroom observations to actual small and large group instruction. Field experiences are done prior to and in addition to the preservice teachers' student teaching experience. The purpose of this investigation was to determine ways in which these types of programs have and have not been effective. The effectiveness of field experiences in reading and other methods courses was compared and contrasted to field experiences in other content areas.

Methods

The field experience concept was studied by standard meta-analysis techniques developed by Glass et al., 1981. Research integration through this process differs greatly from simple literature reviews conducted in recent years. Typical reviews of literature attempt to summarize the results of studies by categorizing them as having either significant or non-significant results and then counting the number of significant studies either favoring or refuting a concept. Studies which do not reach "statistical significance" are generally ignored and often make up the bulk of studies summarized. By contrast, meta-analysis attempts to locate and include all relevant studies conducted in a particular field regardless of "statistical significance." Original statistics from all studies are recalculated and transformed to a common metric. The new metric utilized to report the results of this study is the "effect size" measure signified a "Δ" (delta). The effect size is a measure of standard deviation similar to a common "z - score." If two programs (eg. field experience vs. non-field experience teacher education programs) are compared, results are reported in terms of an effect size. As a matter of convention, the first group listed in a comparision is the superior group with a positive effect size or the inferior group with a negative effect size. For example,

a +0.5 indicates that the field experience program yields results on some measure that is half a standard deviation higher than a non-field experience group. The advantage of the effect size measure is that it is able to indicate not only the direction of the effect of a program but also the degree of effectiveness of a given field experience program.

Data Source

Data included in this study were gathered from various sources searched both manually and by computer. These included journal articles, dissertations, fugitive documents, and supplemental information about studies gathered directly from the original researchers. Reserach studies on field experience programs were located as early as 1960 through 1983. The largest number of studies were conducted in the late 1970's. Every attempt was made to locate all relevant studies conducted in the area. Thousands of document titles were scanned by computer and hand searched from several data bases. Over 750 document abstracts and 250 actual articles were read. In addition, the bibliographies of all studies were searched for new studies. As a result 45 of these articles described relevant research studies and contained enough statistical data to calculate usable effect sizes. One hundred forty-seven effects were calculated from these studies.

Results

STUDIES COMPARING FIELD EXPERIENCE AND NON FIELD EXPERIENCE STUDIES

The results of this study indicate that field experiences in teacher training programs are generally positive experiences for preservice teachers (PSTs). However, the results show that in many cases field experiences are more productive in general education courses than methods courses such as elementary and secondary reading methods in developing relevant attitudes in PSTs. (See Table I.) In addition, PST attitudes were more positively affected when the field experience took place under the following arrangements: low SES classrooms, disadvantaged classrooms, courses involving both elementary and secondary PSTs, and occurring during the freshman or sophomore year of college. Various attitude measures contributed to the findings above including: general attitudes, self concept, attitudes toward teaching, attitudes toward content, and attitudes toward teaching content.

The effect of field experiences on achievement indicate that general education courses are more effective than methods courses in increasing student achievement. Various measures ranging from standardized tests to class performance were used to measure achievement. In addition; field experiences in high schools tended to be associated with better achievement than at other grade levels. Unlike the results in attitude studies, freshman and sophomore level students did not obtain appreciably better scores than junior and senior level students on achievement measures. (See Table II).

Few studies considered teacher behavior as an outcome of field experience exposure. Due to the small number of studies few breakdowns for characteristics of interest were possible. The results indicate that while previous studies showed little attitudinal or achievement advantage in field experience in reading and other methods courses, these field experience have a more positive effect (Δ = +36, Sd - .43, n = 4) on teaching behavior than do general education courses (Δ = +.06, Sd = 6). Teacher behaviors were generally measured by observation of preservice teachers' teaching a lesson by a supervisor, cooperating teacher or trained observer.

In order to determine long range effects of field experience programs several duration outcomes were considered. Duration outcomes included later employment, professional satisfaction, student teaching performance, etc. these data were gathered either during student teaching or from inservice teachers. As with teacher behavior outcomes, field experiences appears to be more effective in methods courses (Δ = +.20, Sd = .30, n = 13) than in general education courses (Δ = .10, Sd = .19, n = 6) for long-term effects. Other arrangements that proved to be most effective for field experiences were: lower and mixed SES classrooms, disadvantaged schools, and high school field experiences.

STUDIES COMPARING RELATIVE AMOUNTS OF FIELD EXPERIENCE

For purposes of statistical analysis the numbers of field experience classes were reduced to categorical variables. The following conventions were used: few = 1 course (or less) with related field experience (FEX), moderate = 2 FEX courses, many = 3 or more FEX courses. Results indicate that PSTs who received moderate amounts of field experience exhibit more positive attitudes, superior student teaching behaviors, and better achievement than PSTs receiving few field experiences. This benefit is effectively reversed when the amount of field experience is increased. Students participating in many field experiences have less positive attitudes, inferior student teaching behaviors and poorer achievements than those participating in a moderate amount of field experience. This tends to indicate that exposure to field experiences reaches a point of diminishing returns. The accuracy of this phenomenon is reinforced when students receiving many field experiences are compared to those receiving few. This findings is consistent for all outcomes measures involving relative amounts of field experiences. (See Table III).

STUDY QUALITY

For all studies included, the overall quality was coded as a factor. Study quality ratings were based on various design factors including: comparibility of groups, instrumentation, test reliability, sampling and assignment procedures and other factors related to internal and external valitity. When comparing field experience to non-field experience groups results indicated that the largest effect sizes were associated with high quality studies (Δ = .18, Sd = .51, n = 24) and medium qualty studies (Δ = .10, Sd = .42, n = 96). Smaller effect sizes were associated with low quality studies (Δ = .03, Sd = .44, n = 27). As a result the effects reported for all previous tables are biased somewhat conservatively by the lower quality studies. The main problem areas include: low overall quality, poor control for external validity, studies coded from gains scores and others. If these low quality studies can be eliminated in subsequent analysis, the results in several areas of interest will likely be even more dramatic. The measure of overall quality indicates that 82% of all studies included were of high or average quality.

Conclusion

This study has summarized the results of all available field experience studies conducted from 1960 to 1983. Results indicated that general education courses tend to develop PST attitudes and achievement while methods courses best develop PST teaching behaviors and long range skills and attitudes. Future studies will benefit if they consider outcome measures consistent with the strength of the various types of field experiences.

Contrary to what might have been expected, field experiences in low socio-economic status schools and disadvantaged schools seem to elicit the most positive PST attitudes, best achievement and strongest long term outcomes. It is suggested that PSTs in these depressed environments may perceive themselves as being able to make a contribution and have an effect on students. In the past low SES and disadvantaged schools have often been excluded from field experiences in the belief that field experiences in those locations would have negative effects.

Generally field experiences seem to be more effective with freshman and sophomore level PSTs than junior and senior level PSTs. Efforts should be made to expose PSTS to field experiences as early as possible for maximum effect. However, caution should also be taken not to overexpose PSTs to field experiences. Students receiving 3 or more courses with an associated preservice field experiences may actually regress on various measures after having reached the point of diminishing returns with the experience.

Project MAFEX has extensively covered the field of research in preservice teacher field experience. Far more data has been collected than can be discussed in this report. This study indicates that in spite of the fact that many reading methods courses incorporate field experiences in their curriculum, little field experience research has been conducted in the area. In fact, only one experimental study that met the qualifications for inclusion in this study was located. While data from 69 effects in mixed content, including some reading, and 51 effects from other specific content courses have relevance for reading field experiences, it is possible that unique factors related to reading teacher training have been overlooked due to lack of research in the area. The paucity of reading related research indicates a need for additional study in the area.

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TABLE I

Comparison of Field Experience to Non-Field Experience Groups on Attitudes

Breakdowns	Δ *	Sd**	n***	min. Δ	max. Δ
overall effects	.13	.41	30	-.69	1.60
general education	.32	.66	6	-.15	1.60
methods courses	.12	.39	15	-.69	.67
low SES	.28	.33	5	-.29	.52
mix SES	.03	.06	2	.01	.07
average SES	.11	.44	23	.69	1.60
disadvantaged	.24	.30	6	-.29	.52
not disadvantaged	.10	.10	24	-.69	1.60
elementary	.03	.36	16	-.69	.67
high school	.00	.40	4	-.59	.24
mixed	.43	.47	9	-.01	1.60
freshman/sophomore	.70	.61	4	.26	1.60
junior/senior	.13	.24	19	-.29	.67

* (Δ+ or Δ-) = direction for first group listed
** Sd = standard deviation of effects
***n = number of effects

TABLE II

Comparison of Field Experience to Non-Field Experience Groups on Achievement

Breakdowns	Δ *	Sd**	n***	min. Δ	max. Δ
overall effects	.03	.47	12	-1.06	.57
general education	.53	.04	3	.50	.57
methods courses	-.02	.42	9	-1.06	.32
elementary	-.14	.45	8	-1.06	.32
high school	.53	.03	3	.50	.57
mixed	-.10		1		
freshman/sophomoe	.06	.57	8	-1.06	.57
junior/senior	-.04	.17	4	- .23	.16

* (Δ+ or Δ-) = direction for first group listed
** Sd = standard deviation of effects
***n = number of effects

TABLE III

Comparison of Numbers of Field Experience Courses on Preservice Teachers

Category/Duration	Δ *	Sd**	n***	min. Δ	max. Δ
ATTITUDES					
moderate/few	.13	.51	7	-.53	.78
many/moderate	-.29	.37	13	-.95	.28
many/few	.13	.38	9	-.37	.64
STUDENT TEACHING PER.					
moderate/few	.71	.40	3	.43	1.17
many/moderate	-.35	.05	2	-.38	-.31
many/few	.10	.47	13	-.54	.24
COMBINED OUTCOMES					
moderate/few	.31	.52	12	-.53	1.17
many/moderate	-.31	.33	13	-.95	.28
many/few	.07	.48	23	-.54	1.24

* (Δ+ or Δ-) = direction for first item in each contrast pair
** Sd = standard deviation of effects
***n = number of effects

A STUDY TO DETERMINE THE CAPABILITY OF TEACHERS AND TO PREDICT THE READING INTEREST OF PUPILS

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Authors of reading methods textbooks almost without exception include pupil interest as a necessary ingredient to be considered in the development of an adequate reading program (Carter, 1976; Carter and Aaron, 1981). Methods for determining pupil interests are advocated in most texts; however, little or no research is cited which substantiates the efficacy of the suggested methods or whether or not one method may afford greater reliability than another.

If one assumes that interest plays a significant role in the achievement by pupils of desirable competence in reading, it appears that reading teachers should possess skills adequate to assess pupil interest. Reading teacher educators, subsequently, should be aware of those methods of assessment which offer greater degrees of predictability of pupils' reading interests. The present study sought to determine: (1) whether or not teachers could predict the kinds of reading selections their pupils would prefer in a forced choice task; (2) whether one method of interest assessment enjoyed a greater degree of predictability of pupil interests; (3) whether or not the number of reading courses completed by teachers affected their success in anticipating pupil reading preferences; (4) whether teachers were able to predict more accurately the preferences of boys or girls; (5) whether or not the length of time since teachers last completed a reading course affected their predictability score; and (6) whether or not the grade level taught influenced the capability of teachers to predict pupil interest.

PROCEDURES FOR THE COLLECTION OF DATA

Eighty-three elementary school teachers from twelve school districts in Texas and Georgia were participants in the study. Two students—one male and one female—were selected randomly by the investigator from the class roll of each of the participating teachers. The selected students had administered to them by the investigator an instrument designed to elicit the student's preference of three selections from among eight literary categories (Carter, 1976). The instrument briefly described each of the categories to clarify for the children the meaning of selections provided.

At the same time the selected pupils responded to the instrument, the teacher of the students completed an instrument entitled "Teacher's Copy." The instrument given the teacher contained virtually the same information given the students.

When the data were collected, a predictability score was assigned each teacher. The score was derived by comparing the response given by each student with that of the teacher. The score was determined as follows:

If the teacher correctly predicted three of three responses, the score assigned was 3. If two of three possible responses were correctly identified by the teacher, the score assigned was 2. One correctly identified response was assigned 1. No corresponding response was assigned 0.

HYPOTHESES

To provide a basis for the determination of significance, the following null hypotheses were adopted: "There will be no significant differences among the variables tested. Null hypothesis will be rejected if the probability of chance is 0.05 or less."

RESULTS OF TREATMENT OF THE DATA

The scores of the boys and of the girls were maintained separately until the data were analyzed using simple analysis of variance to determine the statistical significance of the predictability scores of teachers of the selections by boys and by girls. Table I shows the results of the treatment of the data. Since there was no significant difference between the predictions of the teachers for boys and for girls, the scores of the boy and the girl in each class were then combined for the remainder of the tests for significance.

TABLE I

Source	SS	DF	MS
Total	99.325	1	
Between	.385361	1	.385361
Within	.98.9397	164	.603291

F-Ratio	= .638765
Degrees of Freedom	= 1 & 164
Probability of Chance	= 0.569

Group Statistics

Group	N	Mean	S.D.
Boys	83	1.43373	.799279
Girls	83	1.33735	.753481

Table II shows the distribution of the scores. They ranged from 0 to 5. No teacher achieved a "perfect" score of 6. The score most frequently attained was 2, the second highest frequency score was 3, 4 was third in rank of frequency, 1 was the fourth most frequent predictability score, 5 was fifth, and the sixth most frequent score was 0. The percent of the total of each of the scores is shown in the table.

TABLE II
DISTRIBUTION OF SCORES

Score	Frequency	Percent	Cumulative %
0.0	2	2.4	2.4
1.0	11	13.3	15.7
2.0	23	27.7	43.4
3.0	21	25.3	68.7
4.0	20	24.1	92.8
5.0	6	7.2	100.0
6.0	0	0	0
TOTAL	83	100.0	

Table III shows the results of a comparison the scores of those teachers who indicated that they used an interest inventory as a basis for their predictions with those who did not so indicate. When the scores were compared of the teachers who indicated that they used an interest inventory as a basis for the determination of the preference of their pupils with those who indicated that they did not use an interest inventory, a significant difference was noted. The teachers who used an interest inventory achieved a mean score of 3.17857, while those who did not indicate such use scored 2.60377. The null hypothesis was rejected on the basis of an F-ratio of 4.1657, with 1 and 79 degrees of freedom. The probability of chance was indicated to be 0.042.

It was observed that, of the eighty-one teachers who indicated the method which they used, only twenty-eight used an interest inventory as a basis for predicting the response of their students. Fifty-three indicated that they used other methods, with "observation" being the most frequent method given.

TABLE III

Source	SS	DF	MS
Total	120.84	1	
Between	6.05283	1	6.05283
Within	114.787	79	1.453

F-Ratio	= 4.16576
Degrees of Freedom	= 1 & 79
Probability of Chance	= 0.042

Group Statistics

Group	N	Mean	S.D.
Use of Int. Int.	28	3.17857	1.09048
Non-Use of Int. Inv.	53	2.60377	1.26095

It should be noted that those teachers who completed their last reading course in 1968 or earlier achieved somewhat higher predictability scores than others. However, as stated, the difference was not statistically significant. The number of teachers in the study was relatively small whose last reading course was completed during or before 1968. It was considered, theerfore, important enough to note that, while the present study did not provide sufficient data to predict, there may be a relationship between teaching experience and predictability to pupil interest.

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

In determining factors which were statistically significant in the capability of teaches to predict the reading interest of pupils, it was concluded that the utilization of interest inventories afforded the highest degree of predictability of any of those tested. Despite that, only about one-third of those teachers who participated in the study used interest inventories. Moreover, fifteen of the twenty-eight teachers who reported using an interest inventory were university students assigned to teach reading to elementary students. They were, as a course requirement, mandated to administer an interest inventory.

A survey of the data revealed a rather high degree, although not statistically significant, of predictability among those teachers whose last reading course was completed in 1968 or before. The number of teachers in that category who participated in the study was limited; therefore, it is recommended that further study using a large sample should be done to determine the effect of experience upon predictability of pupil interest.

The implications of the findings of the study for college reading methods teachers appear obvious. Since the single most important factor in accurately predicting the reading interest of children was found to be the interest inventory, and if interest is considered important in teaching children to read, means need to be found whereby pre-service and in-service teachers have instilled the necessity to apply interest inventories and to use the results in their instruction.

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THE PROFESSIONAL PREPARATION OF COLLEGE READING AND STUDY SKILLS SPECIALISTS

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Over the past 15 years the number of institutions of post-secondary education which offer programs designed to upgrade students' college reading and study skills has grown considerably. By 1980 it was reported that there were nearly 2,000 college learning centers in the United States and Canada (Sullivan, 1980). In spite of this rapid growth, professional educators have not yet agreed upon a set of competencies or instructional experiences for the College Reading Specialist (Enright & Kerstiens, 1980; Roueche & Snow, 1977;Stahl, 1981).

Professional educators in the field of reading have long been interested in standards for the preparation of elementary and secondary reading teachers, but not until the early 1960's did the subject of standards for the College Reading Specialist begin to surface in the literature. Many leaders in the field have put forth personal observations and recommendations. A limited number of research studies and surveys has been conducted. All have attempted to answer the question: what skills should the College Reading Specialist possess? It is the intent of the authors to provide an answer to this question, based on a comprehensive review of and the authors' responses to the literature.

Undergraduate Training. The literature (Stahl, 1981) has shown that many College Reading Specialists (hereafter referred to as Specialists) have traditional teacher training backgrounds, and hence are weak on the factual information and philosophies underlying numerous academic disciplines. Recent national reports such as a *Nation at Risk* (1983) have been

critical of the preponderance of methods courses at the expense of the liberal arts in the undergraduate preparation of prospective teachers. Relative to this concern, experts have proposed that the Specialist possess a broad academic background (Ahrendt, 1975; Price & Wolfe, 1968; Stahl, 1981). Special emphasis was placed on (1) the social sciences such as psychology and sociology (Carter & McGinnis, 1970; Price & Wolfe, 1968); (2) the sciences (Price & Wolfe, 1968); and (3) the humanities (Price & Wolfe, 1968). Only Carter and McGinnis (1970) have suggested that the future Specialist complete an undergraduate reading methods course. The Specialist must be a competent reader with a command of all the basic skills to be taught college readers (Cranney, Schenck, & Hellstrom, 1973; Price & Wolfe, 1968; Stahl, 1981). Finally, Price and Wolfe (1968) recommend that the intelligence and scholarly qualities which will permit a prospective Specialist to achieve mastery of the graduate program be assessed during the undergraduate years, with Carter and McGinnis (1970) suggesting the junior year as the appropriate time for initial screening.

Instructional Skills. The Specialist's primary duty is as a teacher of reading. As such, there is a core of knowledge deemed important by leaders in the field. Numerous experts (Carter & McGinnis, 1970; Johnson, 1967; Maxwell, 1966, 1969, 1973; Parker & Ross, 1975; Simpson, 1983; Streicher & Nemeth, 1977) advocate that the Specialist be cognizant of the theories and models of learning and the processes of reading which underlie instructional activities. Furthermore, the Specialist should be exposed to the psychological and sociological literature detailing the characteristics of developmental and remedial learners seeking college reading services (Carter & McGinnis, 1970; Parker & Ross, 1975; Streicher & Nemeth, 1977).

Once a theoretical foundation of the reading and learning process is in place, the specialist can be introduced to the approaches and to the methods of college reading instruction used in the class and lab (Streicher & Nemeth, 1977; Vavoulis & Raygor, 1973) as well as to the procedures followed at the elementary and secondary levels (Parker & Ross, 1975). The experts generally recommend that the Specialist learn the pocedures for individualizing instruction (Carter & McGinnis, 1970; Cranney, Schenck & Hellstrom, 1973; Kazmierski, 1971; Parker & Ross, 1975; Price & Wolfe, 1968; Staiger, 1960) and for grouping of instruction (Carter & McGinnis, 1970); Cranney et al., 1973; Stahl, 1981). In addition, Specialists should learn a variety of methods and techniques for teaching college reading (Hiler, 1975; Livingston, 1974; Parker & Ross, 1974; Streicher & Nemeth, 1977). Teaching skills for 11 specific components of the college reading curriculum have been mentioned in the literature:

1. comprehension (Cranney et al., 1973; Kline, 1962; Parker & Ross, 1975; Steicher & Nemeth, 1977),
2. critical reading (Streicher & Nemeth, 1973),
3. reading rate/flexibility (Cranney et al., 1973; Kline 1962; Parker & Ross, 1975; Streicher & Nemeth, 1977),
4. reference skills (Parker & Ross, 1975),
5. retention/memory develoment techniques (Parker & Ross, 1975),
6. spelling (Maxwell, 1966; Parker & Ross, 1975),
7. study reading (Crannery et al., 1973; Maxwell, 1966; Parker & Ross, 1975; Streicher & Nemeth, 1977),
8. study skills (Cranney et al., 1973; Maxwell, 1966; Parker & Ross, 1975; Streicher & Nemeth, 1977),
9. test taking skills (Kinne, 1962; Maxwell, 1966; Parker & Ross, 1975),
10. time management skills (Parker & Ross, 1975; Streicher & Nemeth, 1977), and
11. vocabulary development (Kinne, 1962; Maxwell, 1966; Parker & Ross, 1975; Steicher & Nemeth, 1977).

Both Parker and Ross (1975) and Price and Wolfe (1968) have further advocated the ability to integrate the language arts into the instructional program.

Along with learning methods for teaching reading and study skills, the Specialist must be exposed to the published instructional materials (Raygor & Vavoulis, 1973) as well as the specialized equipment for both developmental and remedial readers on the market (Maxwell, 1966; Raygor & Vavoulis, 1973; Streicher & Nemeth, 1977), and be able to evaluate these commercial products (Maxwell, 1966; Parker & Ross, 1975; Price & Wolfe, 1966; Streicher & Nemeth, 1977). When published material is determined to be wanting or does not fit the specific needs of a pupil, the Specialist must be able to make appropriate modifications (Hiler 1975; Livingston, 1974) or devise original materials (Ahrendt, 1975; Hiler, 1975; Livingston, 1974; Maxwell, 1966; Raygor & Vavoulis, 1973; Wortham, 1967) and software (Hiler, 1975; Wortham, 1967).

The Specialist must learn how to match materials to the students' needs (Kazmierski, 1971; Parker & Ross, 1975; Price & Wolfe, 1968). In many cases this is achieved through the use of diagnostic processes leading to remedial instruction (Hiler, 1975; Raygor & Vavoulis, 1973) or to medical referral (Johnson, 1967; Maxwell, 1966; Streicher & Nemeth, 1977). When developmental rather than remedial instruction is warranted, knowledge of college course content should be used by the Specialist in planning instructional activities directly supportive of the student's mastery of the subject matter (Stahl,1981; Streicher & Nemeth, 1977).

Measurement and Research Skills. Closely related to the instructional skills necessary for the Specialist are those measurement skills that enable the diagnosis of student needs and the evaluation of student progress. Recommendations include proficiency with informal and formal procedures, skill in evaluating the instruments themselves and knowledge of a variety of assessment procedures.

Specialists should be proficient with informal diagnostic procedures for identifying learning problems (Carter & McGinnis, 1970; Livingston, 1974; Maxwell, 1966; Parker & Ross, 1975; Raygor & Vavoulis, 1973; Simpson, 1983; Staiger 1960), and they should be able to develop their own informal procedures (Hiler, 1975; Kamzierski, 1971; Parker & Ross, 1975; Simpson, 1983). They should also know how to administer, score, and interpret formal standardized diagnostic tests (Carter & McGinnis, 1970; Livingston, 1974; Maxwell, 1966; Parker & Ross, 1975; Staiger, 1960). Skill in critically evaluating the quality of the instruments themselves, both norm-referenced and criterion-referenced measures, is necesary (Carter & McGinnis, 1970; Livingston, 1974; Parker & Ross, 1975; Raygor & Vavoulis, 1973; Streicher & Nemeth, 1977). Once initial screening has occurred, the Specialist needs skill in ongoing diagnosis of learning problems and in evaluating student performance and progress. Cranney et al. (1973) and Maxwell (1966) suggest skill in using tests, interviews, and case studies, with Parker and Ross (1975) and Raygor and Vavoulis (1973) supporting knowledge of the case study technique. Most of the expert recommendations focused on the necessity of the Specialist to be skilled in the use of formal and informal achievement measures (Ahrendt, 1975; Livingston, 1974; Parker & Ross, 1975; Raygor & Vavoulis, 1973; Simpson, 1983; Staiger, 1960, Streicher &

Nemeth, 1977).

Knowledge of the research process and the research foundation for college reading is essential for the Specialist. The Specialist should be a consumer of research, aware of the new theories and studies published in professional journals and able to discern their practical applications (Eanet, 1983; Maxwell, 1966; Raygor & Vavoulis, 1973; Vavoulis & Raygor, 1973). Eanet (1983) recommends broad knowledge of the literature regarding effective teaching and learning in higher education, and, along with Kazmierski (1971) and Cranney et al. (1973), knowledge of current studies in developmental, late adolescent, and adult psychology. Streicher & Nemeth (1977) and Simpson (1983) advocate the application of research skills to the evaluation of instructional methods curriculum, and curriculum revision.

While being well informed about the research of others, the Specialist needs specific research skills in order to implement, conduct, and evaluate research. Coursework in statistics, research design, and measurement is therefore advised (Price & Wolfe, 1968; Kazmierski, 1971; Raygo & Vavoulis, 1973). The research that is then conducted by the Specialist should be published (Maxwell, 1973).

Administrative and Counseling Skills. While it is true that not all Specialists will become program directors, experts recommend, nonetheless, that they possess a broad array of adminstrative skills and competencies.

The Specialists should be able to supervise paraprofessionals and professionals (Ahrendt, 1975; Maxwell, 1966), with appropriate inservice training experiences for tutors (Ahrendt, 1975; Livingston, 1974; Maxwell, 1966, 1969, 1973; Streicher & Nemeth, 1977) and professional staff (Ahrendt, 1975; Streicher & Nemeth, 1977). The Specialist should serve as a college reading consultant on and off campus (Livingston, 1974; Raygor & Vavoulis, 1973; Streicher & Nemeth, 1977), interacting with and training content area teachers (Livingston, 1974; Maxwell, 1966, 1969, 1973; Parker & Ross, 1975; Streicher & Nemeth, 1977; Wortham, 1967).

Program development and maintenance is another major area of administative responsibility. The Specialist should therefore be able to set program goals and objectives (Ahrendt, 1975; Parker & Ross, 1975) and to develop corresponding learning programs (Ahrendt, 1975; Livingston, 1974; Steicher & Nemeth, 1977). Additionally, the Specialist must be skillful at budgeting programs (Ahrendt, 1975; Livingston, 1974; Parker & Ross, 1975; Raygor & Vavoulis, 1973), at managing and keeping records (Cranney et al., 1973; Kinne, 1962; Raygor & Vavoulis, 1973; Streicher & Nemeth, 19744), and at engaging in public relations and conducting advertising for programs (Maxwell, 1966, 1969, 1973). Finally, the Specialist must be able to evaluate programs with respect to transfer of learning skills (Kinne, 1962; Staiger, 1960), to publish in-house program evaluation data (Parker & Ross, 1975), and to write overall program assessments in the form of annual reports (Maxwell, 1969).

Other important administrative competencies recommended in the literature include developing and maintaining relationships with academic departments (Carter & McGinnis, 1970; Maxwell, 1969, 1973; Staiger, 1960) and administrative units on campus (Kazmierski, 1971; Wortham, 1967) as well as serving on campuswide committees (Maxwell, 1973). It is recommended that the Specialist be knowledgeable of institutional traditions and requirements (Maxwell, 1973): (1) the organization of curricula and courses within academic units (Kazmierski, 1971; Livingston, 1974; Maxwell, 1966, 1969, 1973), (2) the courses with high failure rates (Parker & Ross, 1975), and (3) the history and role of the college reading program on the Specialist's campus.

Finally, some experts recognize that the Specialist often fulfills the role of advisor/counselor. Therefore, it is recommended that the Specialist be knowledgeable in such areas as scheduling procedures, campus regulations, and transfer and graduation requirements (Livingston, 1974; Parker & Ross, 1975). The Specialist should also act as a referral source, directing students to appropriate campus agencies (Livingston, 1974; Maxwell, 1973).

Personal Characteristics. Underlying all the preservice training, all the internship experiences a teacher preparation program can provide the prospective College Reading Specialist, is a set of personal characteristics that will ultimately determine the Specialist's success or failure, happiness or disenchantment within the given academic mileau. Both at the program entry-level and at the internship level, careful evaluation of the future Specialist's personal characteristics must be undertaken jointly by the candidate and the professional adviser. While there exists no published instrument specific to the assessment of personal qualities for potential professional success in college reading programs, experts in the field have specified a number of characteristics useful in determining a candidate's personal foundation for the role of College Reading Specialist.

Basic to the role of the Specialist as a teacher is a genuine positive regard for students who are drawn from a wide range of socioeconomic and academic backgrounds (Hiler, 1975; Maxwell, 1969, 1973; Parker & Ross, 1975; Price & Wolfe, 1968; Streicher & Nemeth, 1977). The role demands a true desire to assist young adults to meet their varied degree objectives (Parker & Ross, 1975). Furthermore, the Specialist must be empathetic towards the problems that students are encountering in academic coursework (Carter & McGinnis, 1970; Hiler, 1975; Maxwell, 1973; Streicher & Nemeth, 1977). In part, this quality is based on one's own understanding of and experiences with the undergraduate curriculum, as discussed earlier in this paper. It is paramount that the Specialist be a flexible individual readily willing to adapt both programmatic procedures and instructional methods or techniques to meet the needs of specific students (Hiler, 1975; Kazmierski, 1971; Price & Wolfe, 1968). Hand in hand with flexibility goes the creativity to develop student centered learning programs (Price & Wolfe, 1968).

The Specialist must be able to demonstrate leadership qualities when interacting with faculty and administrators within the program and throughout the institution (Maxwell, 1973; Price & wolfe, 1968). What is more, it is not just leadership skills but also the Specialist's staying power (Johnson, 1967) in the face of adversity that is required. Yet, the innermost requirement is a persronal feeling of self worth (Stahl, 1982) and a strong commitment to the college reading program and profession (Staiger, 1960).

Conclusion

The requisite skills for the Specialist, as identified by experts in the field of college reading, are extensive and diverse. First, training begins at the undergraduate level, not with the traditional preponderance of methods and materials courses, but with the establishment of a scholarly academic foundation. Second, knowledge of the underlying theoretical base of both the reading and the learning process, with particular emphasis on characteristics of college/adult learners (from the remedial to the developmental to the proficient), is recommended as the foundation for instructional skills. Third, just as theory pro-

vides a foundation for instructional skills, so a solid background in research literature and research methodology provides a foundation for the Specialist's measurement and research skills. Fourth, while the Specialist's primary responsibility is as a teacher of reading, many will serve at some time in their careers as program directors, thus necessitating a broad array of administrative and counseling skills. Finally, for training in the skill areas identified to be worthwhile, the future Specialist must bring to the graduate program a set of personal characteristics indicative of the candidate's suitability for the profession.

While not delineated by the experts, it is clear from this review that the Specialist must be precisely that; a specialist in college reading. Clearly, a generalist in higher education, developmental education, or reading will not suffice. What is more, it cannot be expected that graduate coursework alone will provide the Specialist all the necessary skills. The future Specialist must enter a graduate program a competent reader, with the appropriate personal characteristics, and with a solid academic undergraduate background, and then complete the program able to apply theory and methods in a manner fitting the unique demands of the Specialist's institution. In recognition of the limitations of graduate coursework, the future Specialist must be provided with extensive internship experiences and later lifetime opportunities for professional development.

Finally, an area deserving greater attention is the need for an agreed upon set of standards. As in the legal and medical professions, the criteria experts establish should determine the training provided and serve as the standards for evaluation of the Specialist as an intern and as a professional in the field. Without standards the profession cannot (1) adequately prepare Specialists for the rigors of college reading instruction, (2) ensure the well-being of Specialists and students alike, and (3) promote excellence in the field of college reading.

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THE USE OF COGNITIVE AND METACOGNITIVE STRATEGIES OF GOOD AND POOR READERS AT THE COLLEGE LEVEL

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A number of social and political factors in the past several years—the passage of P.O. 94-142, the Rehabilitation Act of 1973, high unemployment, more liberal admissions policies of universities, etc.,—have resulted in students entering colleges and universities with increasingly diverse abilities and aptitudes. Included in this population are a surprisingly large number of students with poor reading abilities. Study skills labs and remedial programs have been developed at the college level to

assist the poor reader. Professors, however, are faced with the dilemma of finding beneficial, efficient approaches for the remediation of these students. We're also faced with justification of continued funding for reading and study skills programs, as well as developing good instructional techniques to help justify their continued existence.

Torgesen (1982) has hypothesized that the reason learning disabled children exhibit poor academic performance is that they are "inactive learners." They fail to generate spontaneously appropriate task strategies necessary for academic success. Research findings have supported this supposition. Researchers have also found that cognitive and metacognitive strategy training has had some success in remediation of children (Wong and Jones, 1981). There is a paucity of information, however, when it comes to studies of metacognitive awareness at the college level.

Metacognition in this study uses Flavell's (1978) definition, "Metacognition refers to one's knowledge, one's awareness, concerning one's own cognitive processes and products or anything related to them, e.g., the learning-relevant properties of information or date...Metacognition refers, among other things, to the active monitoring and consequent regulation and orchestration of these processes in relation to the cognitive objects or data on which they bear, usually in the service of some concrete goal or objective."

Hare and Pulliam in a 1980 study, found that college students were able to report how they believed they read, and, in fact, students' retrospections about their reading behaviors are acute enough to discriminate significantly between high and low scores on a reading achievement test, and the data suggested that high scoring readers were more actively involved in reading. In 1981, Hare found that good adult readers exhibited greater control of their reading than poor readers and demonstrated more awareness of problem-causing situational and textual features. While poor readers noted essentially the same kinds of problems they were not as cognizant of situations where they didn't understand. Gambrell and Heathington reported in 1981 that adult poor readers were unaware of several important parameters of reading while adult good readers were extremely sensitive to both task and strategy dimensions of reading. Adult poor readers lacked such sensitivity-especially with respect to the strategy dimensions of reading.

The purpose of this study is to investigate the awareness of metacognitive and cognitive strategies in the disabled college student reader and compare it to strategy awareness of the able college student reader.

METHODOLOGY

Subjects

The 36 subjects in this study were selected from freshmen enrolled in a reading and study skills class at our medium-sized university, the University of Wisconsin-Stevens Point. All enrollees were given the Nelson-Denny Reading Test during the first week of class. Good readers were selected at random from those who scored above the 80th percentile on the comprehension subtest, while poor readers were randomly selected from those who scored in the lower 20th percentile. Each subject was seen individually by an examiner with the interview conducted before they received any formal training in reading and study skills.

Procedure

Subjects read silently five short passages from the Davis Reading Test, Form 1A, and answered written comprehension questions related to each passage. The examiners observed and counted subjects' non-verbal behavior during the reading task, for instance, flipping back and forth between questions and passages.

Subsequently, readers were interviewed about their perspective on the reading task, e.g., were they confused during reading? What they did to lessen confusion, what did they do generally to learn? The interview consisted of a formal but non-directive series of questions. Subjects were also asked about past reading experiences and locus of control. All interviews were taped and are in the process of being transcribed and analyzed. Subjects' responses to the questions were recorded simultaneously by the examiners.

At the conclusion of the interview, each subject was given a 32 item written, forced-choice questionnaire to complete regarding the strategies they used when reading and/or taking tests.

Rating

During the interview the subjects reported the strategies that they used to lessen their misunderstandings. These strategies were recorded by the examiners. Subsequently, the examiners read these responses and assigned them to one of three possible categories: I. Strategies that affect the learning environment. In this category were placed all the responses that "set the tone" for the learning experience, e.g., cleaning one's room, finding a quiet place, avoiding distractions. II. Startegies that aid performance or involve production of a task and can be observed. In this category were placed strategies that are concrete, defined and are often taught, e.g., skimming, slowing down, rereading, using a pencil to keep one's place. III. Strategies that are engaged in "inside-the-head" (Samuels, 1983) that aid in task performance. Included in this category were strategies that readers report using, but in which they cannot be seen engaging. These strategies are complex, nonobservable mental operations: visualizing, imagining, putting oneself in the author's place, concentrating, etc.

Three examiners rated each of the 178 responses. Disagreement occurred on the placement of six responses. In each of these instances the majority rules - the response was included in the category where two of the three readers agreed. In no instance was there a three-way split.

Self-reported strategy knowledge and employment were analyzed for significance. Results of the study will be discussed in terms of implications for remediation of poor readers at the college level.

While the students' responses to the interview were both taped and written down by the examiners, only the written responses were analyzed for significance for this preliminary study.

RESULTS

The taped interviews are in the process of being transcribed and will be reported in a subsequent paper along with the results of the forced-choice questionnaire.

The following research questions were formulated to determine the metacognitive differences between the high and low comprehenders:

First, do the number of metacognitive responses to the questions regarding what the reader does to lessen confusion significanty differ between the high comprehenders and low comprehenders? And, is there a significant difference between the types of responses given by high and low comprehenders?

Research question 1. A chi-square test of statistical significance was employed to determine if the difference was

significant between the high and low comprehenders on the number of responses they gave when asked what they did to lessen their confusion when they are getting ready to read, during reading or during test taking. The results demonstrated that high comprehenders gave significantly more responses than low comprehenders ($X^2_1 = 6.85$, $p < .05$).

Research question 2. In order to determine whether there was a significant difference between the type of responses given by the high comprehenders and low comprehenders, two chi-square tests of statistical significance were employed. It was found that there was no significant differnce in the numbers of responses between the high and low comprehenders in Category II (Strategies that can be observed) ($X^2_1 = .903$, $p > .05$), but that there was a significant difference in the number of responses between the high and low comprehenders in Category III (Strategies that are engaged in "inside-the-head") ($X^2_1 = 11.75$, $p. < .05$).

DISCUSSION

A common finding in the reading research is that effective strategy use distinguishes good and poor readers (Aulls, 1981; Hare, 1981; Gambrell and Heathington, 1981). This study supports and, perhaps, elucidates these findings. The good comprehenders in the present study did indeed report using one-third more strategies than the poor comprehenders to help repair their misunderstandings.

A finding of greater interest, however, is the difference between the types of strategies used by the good and poor comprehenders. There was no difference between the two groups of reported strategy use in Category II, but there was a significant difference of reported Category III strategy use. Both good and poor comprehenders were as likely to report using strategies that were observable and concrete. They said, for example; they reread the material, looked at the questions first, or asked someone else when they didn't understand what they were reading. Good readers were not more proficient or aware of using these strategies. Poor readers reported using strategies in Category II when they had difficulty understanding as often as good readers.

This was not the case with Category III strategy usage, however. These "inside-the-head," unobservable, mental operations were much more likely to be reported by the high comprehenders. Good readers said they would "try to make connections," "make guesses from the context," "focus," or "visualize" significantly more often than the poor comprehenders.

It is interesting and useful to speculate about what may account for these differences in the types of strategies used by poor comprehenders. Why do they exhibit knowledge and awareness of the more complex mental operations?

One possible explanation is that low readers have never been taught to use higher-order thinking skills or reflective problem solving skills. They may have been tracked in low groups through their elementary and high school years and received instruction that involved primarily associative learning experiences. If they had reading difficulties in school they could have had instruction that emphasized decoding skills rather than deriving meaning from the text.

Further, the Category II strategies are more commonly, or even inadvertently, taught to students. Teachers often say, "Use your pencil to follow along," or "Reread this material if you don't understand it the first time." Frequently, units are included in junior high and high school English classes which teach students to skim, take notes, read the subtitles, or use a dictionary—all Category strategies. Students may feel that these are the skills in which they are *supposed* to engage in order to be good readers, even if they don't in fact execute them. It is far less common for a teacher to advise students to visualize, absorb the colors, or connect the ideas, for example. And even if teachers do suggest these techniques it is difficult for the students to understand how to use them. These skills are difficult to model and teach, as well.

But, perhaps, none of these skills (Category II and III Strategies) are systematically taught in the schools. It is possible that the high comprehenders or good readers automatically incorporate these strategies into their repertoire without ever having been formally taught. Or, they may have higher IQ's than the low readers and this accounts for their better reading ability and more advanced strategy use. A higher IQ may also account for their being more articulate and, therefore, more able to relate what strategies they employ. (The low comprehenders were as articulate in reporting Category II strategies, however).

A further explanation may be that poor comprehenders are also poor decoders. Their slower decoding skills could engage all the time in their short term memory and leave little opportunity for focusing on meaning or comprehension monitoring. If they are unaware that they don't understand they won't spontaneously generate strategies to repair their misunderstanding.

IMPLICATIONS FOR REMEDIATION

The results of this study show that poor comprehenders lack the awareness and the ability to use strategies that involve higher order, more complex thinking skills. The question then becomes *how* these strategies can be taught, or *if* they can be taught at all. How can students be taught to be aware of and engage in thinking skills that cannot be modeled or even explained directly?

One avenue that may be worth exploring more closely is Torgesen's (1982) "inactive learner" hypotehsis. Low comprehenders may be "inactive" in their approach to learning. It would be possible for a reader to engage in all of the Category II strategies and still not understand the meaning of what is being read. Unless readers actively, mentally manipulate the words and phrases, unless readers make mental connections and inferences they may understand little of the meaning in the text. Reading the words in the subtitles, skimming, pointing, rereading, etc., does not guarantee comprehension. Activating the reader's mental operations is essential for understanding. It is as essential as activating physical operations when learning to ride a bicycle or ice skate.

Creating an awareness of the process of mental activity in the learner is an appropriate place to begin. Too often learners are not made aware of their learning strengths and weaknesses or their cognition. It seems of the utmost importance that teaching begin to focus on helping learners develop their awareness. A lesson that begins with a discussion (not a lecture or a presentation) to motivate, to develop insight, to share potential learning hurdles and alternative solutions or strategies for problem solving is critical. An independent work time where students have to execute mental operations while the teacher is advising, supporting and correcting is essential. A final discussion where students can share strategies, problems, likes and dislikes of the learning situation and can learn to synthesize is necessary. Incorporating these elements in a lesson is fundamental in activating "inactive learners" and in making them aware

of their cognition and task and strategy variables.

Learners may also become "active" by using the sequence of steps in Cognitive Behavior Modification (Meichehbaum & Asarnow, 1979) or Reciprocal Teaching Strategies (Brown, 1983). Both these techniques lend themselves to helping make learners more aware of their own cognitive strengths and weaknesses.

Helping learners become aware of their own cognition, and of tasks and strategy variables may prepare them to grasp the intricacies and complex structure of problem solving and learning. This goes beyond the application of learned procedures. Poor comprehenders need to learn systematic procedures in task production, but to succeed they must be able to manipulate knowledge so they can be in control of their own learning processes.

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READING AND WRITING SKILLS OF PROSPECTIVE TEACHERS

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The general public, numerous national commissions, and teacher educators are concerned that teachers who are unable to read and write will not effectively teach these skills. Both reading and writing skills are addressed in most university, college, departmental, and program policies. Student teaching evaluation instruments frequently list written communication and the ability to read and understand prose discourse among the expected competencies of elementary and secondary teaching candidates.

Most colleges and universities also require the successful completion of a year of freshman composition courses. Some institutions manadate an exit examination to make sure that any student completing the freshman composition courses can write an intelligent, coherent essay in which he or she employs standard written English and exhibits an acceptable level of mechanical skills.

Unfortunately, as faculty members examine the work of individual students, it is clear that this introductory coursework is not enough for some students. Moreover, the exit examinations are not sufficient to verify professional level competence. The development and implementation of possible departmental or program assessment and remediation procedures are the subject of this study.

UNDERLYING ASSUMPTIONS AND QUESTIONS

In drafting a program for the assessment and improvement of prospective teachers' reading and writing skills at the University of Cincinnati, some assumptions were made:

1. The students have some reading and writing skills as determined by thier admission to the university, by their successful completion of required basic English courses, and by their successful completion of other freshman and sophomore courses and field experiences. Most of these courses and experiences require written reports, essay answers on examinations, and the comprehension of reading assignments.
2. The College Entrance Examination Board (CEEB) composition measuring device currently extant (Kirrie, 1980) could provide a functional screening tool for the identification of prospective teachers with writing problems.
3. The holistic grading technique for composition evaluation could be taught to a group of graduate assistants and faculty members such that a 70 percent or better agreement could be attained.
4. The Test of Standard Written English could balance the subjective essay score with an objective test of prospective teachers' ability to use standard written English.
5. A Criterion-Referenced Test (CRT) of reading could provide a functional screening tool for the identification of prospective teachers with reading problems.
6. The systematic counseling and remediation procedures offered to the general university population (University College Center for Developmental Education, Arts and Sciences Writing Center, University Tutorial and Referral Services) would allow prospective teachers to achieve writing and reading competence or be counseled into some other vocational field.

With the foregoing assumptions in mind, the study attempted to answer the following questions:

1. How well do a sample of preservice teachers write when judged by CEEB holistic grading procedures?
2. How well do a sample of preservice teachers read when assessed through the use of the CRT?
3. How practical are these screening devices, given the time required for administration, training, and scoring?
4. How well do a sample of prospective teachers use standard written English as measured by the Test of Standard Written English (TSWE)?
5. How effective are remedial programs for preservice teachers in bringing them to prescribed competency levels?
6. How effective are counseling services in providing successful alternatives to teaching as a career?

At present, the last two questions cannot be answered; but

reading, writing, and counseling services are available for students. The effectiveness of these services need to be monitored as our students are referred.

INSTRUMENTATION

The CRT was developed as a test of professional reading skills (Fagan, Dupuis and Snyder, 1981). Whereas standardized tests of reading, such as the Nelson-Denny, use passages on general topics for their comprehension assessment, the CRT is based on the reading of an article in a professional journal, "What's New in Ability Grouping?" (Wilson and Schmits, 1978) from the *Phi Delta Kappan*. The rationale for such a professional reading source is that prospective teachers should be assessed on reading material similar to that which they will be reading as part of their continuing professional development. The *Kappan*, recognized as a respected and well-written journal of general interest to teachers, provides such material.

The CRT establishes four objectives to be measured. Given the professional reading selection, the prospective teacher will demonstrate:

1. understanding of professional vocabulary used in the reading;
2. ability to answer literal level comprehension questions (designated as low comprehension);
3. ability to answer inferential level comprehension questions (designated as high comprehension);
4. ability to interpret information found in tables.

Thus, the test has four sections and five scores were derived from it:

1. Vocabulary.....6 Items
2. Low Comprehension.....5 Items
3. High Comprehension.....9 Items
4. Data Interpretation.....3 Items
5. Total.....23 Items

For the writing sample, the prospective teachers were asked to respond to either "1" or "2" of the following questions:

1. What does the information contained in this article suggest about the influence of research results on instruction? In your opinion, is this an accurate representation of the application of research findings in instructional practices in general? Suggest ways that research could have a greater influence on instruction.
2. The author notes that the data reveal a "consistency agreement among teachers" regarding ability grouping. Suggest some possible reasons for this widespread agreement.

These questions follow the same general format as those used by the CEEB in its test and serve as the foundation for the holistic scoring of compositions. Holistic scoring is defined as "reading for the total impression they [essays] make on the reader" (Kirie, p. 4).

The TSWE was used with a smaller number of the sample. The TSWE is a 30-minute test containing 50 multiple-choice questions. It assesses students' ability to use standard written English—the language of college textbooks and the language in which students are expected to write papers in college. It is not a test of creativity or organization of ideas and does not require students to do any writing.

Research confirms that some types of multiple-choice tests are valid as predictors of students' writing ability and that, given a limited testing time, the combination of a multiple-choice test and an essay will provide the most valid measure of writing ability (Godshalk, Swineford and Coleman, 1975). This research also confirms that highly reliable scoring of essays can be attained by means of tightly controlled procedures.

PROCEDURES

Sixty-three junior-level students (Ss), enrolled in two sections of Preactive Teaching Seminar I (Spring, 1981-82) and one section of Linguistics for Elementary Teachers (Winter, 1982-83), were given the CRT with the essay questions. The sample included 54 elementary majors, 8 health and physical education majors, and 1 secondary English major.

The Ss were given 75 minutes to (1) read the article, (2) complete the CRT on reading, and (3) complete the writing sample. The entire assessment was completed by most students in a 75 minute period, although the tests were not timed. Students were allowed to use as much time as necessary to complete the assessment.

The 29 elementary education majors enrolled in Linguistics for Elementary Teachers were also given the TSWE. They were given 30 minutes to complete this 50-item test.

Five faculty members and three graduate assistants were given the CEEB materials on holistic scoring, a copy of the *Kappan* article, and the two essay questions. The raters were allowed to ask questions about the holistic scoring procedures. After quetions were answered, each rater was given a package of unscored essays, coded simply, A,B, C, __, L. The sample of student papers was selected from a population other than the one used for this study. All raters were asked to read and score holistically, essay C. Scoring was to be based upon the CEEB 4-1 scale, where "4" is the highest and "1" the lowest score. After all raters had scored essay C, each rater's score was listed on a chalkboard so that discrepancies could be noted.

Five of the nine raters scored essay C as a "3." The instructor also served as a rater. Discussions of the reasons for the score variations (one "1", two "2's," and one "4") led to observations that organization, language, and sequencing affected the scoring both positively and negatively.

Following that discussion, raters were asked to score essay A. Again, the listing, discussion and holistic scoring continued until 80 percent agreement among the raters' scores was achieved. If agreement had not been achieved additional samples would have been drawn and the procedure repeated. Each of the 9 raters (including the instructor) then scored the 60 essays (3 Ss did not attempt the essay).

Two readers of raters scored each essay independently. When the two readers disagreed, a third reader scored the essay. A small percentage of the papers were read by a fourth reader to resolve discrepancies in readers' scores.

FINDINGS

Approximately two hours were devoted to training the readers and an additional three hours were spent scoring the 60 essays. Only two readers were necessary in 33 cases (55 percent). Three readers were needed in 21 cases (35 percent) and four readers were involved in the remaining six cases (10 percent of the total essays).

Ten of the sixty essays received a score of "one" (17 percent), twenty-three received a score of "two" (38 percent), twenty-two received a score of "three" (37 percent), and five received a score of "four" (8 percent.)

On the TSWE, the students' average score was just above the 56th percentile. Of the 29 Ss who were given the TSWE, 12 scored below the 50th percentile (41 percent) and 7 scored below the 25th percentile (24 percent). Thirteen scored above

the 75th percentile (45 percent).

How well did this sample of prospective teachers do in reading? Looking at the whole group of 63 Ss, the mean percentage for total comprehension was just about 77 percent correct. The means for each of the 4 subtests look like this:

CRITERION-REFERENCED TEST OF READING

Subtest	Mean	Possible
Vocabulary	4.79	6
Low Comprehension	3.87	5
High Comprehension	7.49	9
Data Interpretation	1.60	3
	Total	23

SUMMARY AND CONCLUSIONS

Responding to Departmental as well as public concerns about prospective teachers' ability to write and read well enough to be considered competent, this study arbitrarily defined writing competence as a score at the "3" or "4" level as those levels were described within CEEB's holistically-scored English Composition Test. Using the Test's protocols as a base, nine raters were trained in an adaption of CEEB's holistic scoring until 80 percent agreement was obtained. These raters holistically scored 60 writing samples of preservice teachers.

Holistic scoring, by definition, is supposed to ignore technical errors and other inept distractors for theme readers. Yet, for essays scored on the lower half of the holistic scale, that is "1" and "2," technical errors did sidetrack the readers. Generally, these errors were elliptical; that is, generalizations without supporting evidence, allusions to concepts without definitions, short sentences without demonstrated relatedness.

Mechanical writing errors tended to be relatively similar to those made by the general population, that is, subject-verb and/or subject-pronoun agreement, extensive use of cliches, and inappropriate word choices. With the poorest group, the "1's," four or more spelling errors per page, plus their inability or unwillingness to use contractions, interfered with holistic scoring.

Again, as one might infer, these errors tended to be found in groups. Preservice teachers with numerous spelling errors, subject-verb agreement problems, and elliptical sentences tended to have unfocused, stream-of-consciousness-like writing. It is important to note, however, that of the 60 Ss, only 10 fit the "1" category of holistic grading. Another 23 had few mechanical errors, but enough technical errors to rate them a "2" in holistic scoring.

In summary, 27 (45 percent) of the writers scored in the top half of the holistic scale. These prospective teachers displayed focus, organization, and coherence in their papers. The 33 poor writers (55 percent) tended to be disorganized and prone to technical and mechanical errors. Of the 60 prospective teachers, 23 need some intensive review of writing fundamentals. Another 10 need remediation and counseling.

The training and scoring were accomplished in a total of five hours and generated useful communication regarding the scoring of students' papers. The scoring was reasonably reliable. The procedure seems feasible for large-scale program or departmental assessments.

The 29 Ss taking the TSWE provide useful comparison data. The results include cases which illustrate the value of using both the essay and the TSWE scores. One student received a holistic score of "3" on the essay, yet scored at the second percentile on the TSWE. While another student received a holistic score of "1," he or she scored at the 78th percentile on the multiple-choice measure.

The degree of relationship between the TSWE scores and the holistically-graded essay scores will always be limited. There is only one essay question on which to sample writing ability and, even if there were more essay questions, the degree of relationship would not be perfect. The two assessments are probably measuring some unique skills as well as some common ones.

The reading levels of these prospective teachers are reasonably high. Data interpretation presented the greatest difficulty and inferential comprehension was the strongest subskill. We can be reasonably sure that these teachers can read professional materials successfully.

The use of only the CRT and the essay questions gives an assessment of prospective teachers' reading and writing skills and requires only 75 minutes of administration time. The use of the standardized TSWE requires an additional 30 minutes and a standardized reading test, such as the short version of the Nelson-Denny, requires 30 minutes more.

While this additional hour of administration time may seem prohibitive, the norm-referenced tests have demonstrated high reliability. In addition, multiple tests of the same skill areas are frequently useful. Valuable information about our students' reading and writing skills would be gained from both types of tests. We could provide understandable information to a skeptical public and precise diagnosis of reading and writing difficulties to prescribe remedial teaching for our weaker students.

In conclusion, these assessment devices are only rough measures of reading and writing skills and should be supplemented with careful observation in classes and field experiences. The sample size was small and most secondary majors were not represented. Although further research needs to be conducted with larger, more representative N's and additional variables, these preliminary results support our hope that the reading and writing skills of many of our preservice teachers can withstand public scrutiny. They also demonstrate the need for a systematic screening mechanicsm to help weaker students identify problems and locate remedial help or career counseling.

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ASSESSING AND REMEDIATING THE READING AND WRITING SKILLS OF PROSPECTIVE TEACHERS: UNDERLYING ASSUMPTIONS AND QUESTIONS

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In countries where the general public has high regard for teaching and teachers, the expectations about the outcomes of education are high. The assumption is made that teachers are literate, that they model good learning behaviors, and that they create situations in which children want to learn.

There are other countries where the general public does not have high regard for teachers and teaching. In these places it is hoped that the children will become well educated, although it comes as no surprise when achievement scores are low.

Unfortunately, in this country there seems to be almost a universal public criticism of education from kindergarten through graduate schools. This criticism is well founded in many places although there are areas of excellence and excellent teachers in every school system.

There have been many suggestions made to account for low public expectations of education and the lack of achievement on the part of some students. In this discussion, only one suggestion will be addressed - the standards of literacy of teachers.

Any person who has had continuing contact with schools and school systems either as a parent or as a teacher educator can cite examples which woud indicate that some teachers indeed do not model literate behavior. For example, parents receive notes from teachers that contain spelling and usage or grammar errors. Children receive worksheets which contain inaccurate information. In one classroom, children were asked where glaciers were found. When one responded by saying, "At the South Pole" and was told by his teacher, "No, that's incorrect because it is warm in the south," we know that indeed there are problems in which literacy is a factor.

The above examples are all pretty blatent. The problems are obvious. There are more subtle kinds of behavior exhibited by teachers who either read poorly or who don't like to read. First, they do not model good reading behavior: they do not read orally to the children; they do not have sustained silent reading so that the children have time to read for fun and the teacher is seen reading; they do not encourage free reading at home. Second, in their classrooms reading is a chore. It is a task to be done from 9:30-10:15 and then it can be forgotten. Rather than fostering an application of the functional and recreational uses of reading, reading is just one more assignment.

The same kinds of behavior are exhibited by teachers who write poorly or who don't like to write. They give their students very few opportunities to write except to do work sheets. They do not encourage writing as a means of communication. The emphasis in elementary grades is placed on correct spelling and punctuation rather than on the ideas expressed. The teachers themselves never write for pleasure. They may write a note to the parents describing unacceptable behavior of a child but rarely is a note written expressing pleasure with what is done. In these kinds of situations, both the process and the product of writing is viewed negatively.

Why is it that there are some teachers who have such poor reading and writing skills and who in addition may have poor attitudes about reading and writing? Perhaps these teachers had teachers who had inadequate skills and poor attitudes toward reading and writing. This assumption leads very easily into the blaming syndrome. College teachers blame the high school teachers for not insuring that the students were literate; the high school teachers blame the junior high teachers; and so on down the line. This, of course, does no good at all.

Rather than blaming, those of us who are charged with the responsibility of preparing prospective teachers must give our students the opportunity to do large amounts of reading and writing. As we evaluate their work, we must make judgments about their competence. Decisions are then made about their future as teachers.

The question of why some of the students I teach (who are all at least junior or seniors) have such poorly developed reading and writing skills has always puzzled me. Upon reflection, observation and experience, the following hypotheses are presented. None is validated by formal or informal research but each could be supported by specific examples.

1. Some college teachers do not look at or attend to the writing problems of students. The ideas are still of primary importance and spelling, punctuation and usage errors are ignored.
2. Some college teachers are poor models. They may not require students to do much reading or writing. When reading assignments are made, there are no purposes given. All written work may be of the multiple choice type which is easily graded by the computer.
3. Some college teachers feel sorry for their students. They may say the student missed the point in answering every question but he/she certainly tried hard, so the student was given a B.
4. Some college teachers are afraid of being called biased or racist if minority students are given the grades they have actually earned.
5. Some students have developed magnificent coping skills to cover up their poor reading and writing skills. These students learn best by listening and they are very verbal. Therefore, if the student does very poorly on an essay exam or on a reading/writing assignment, it is easy to overlook the reading/writing deficiency by saying, "I know the student knows this material. He just was not able to express himself on paper."

As the teacher of prospective teachers I have tried to make myself very aware of the reading and writing skills of my students. I assume all of my students are literate in reading and writing until they demonstrate they are not. I then take the responsibility of drawing attention to their problems and when appropriate, suggesting remediation.

Perhaps because of the criticisms of American education generated by the general public as well as by political and business factions, teachers at all levels will re-evaluate their standards of literacy in reading and writing. Rather than reacting defensively and changing nothing, we can evaluate reading and writing goals and programs, making appropriate changes that will create the conditions in which every student will learn appropriate reading and writing skills.

PROGRAM DIVERSIFICATION IN A COLLEGE DEVELOPMENTAL READING PROGRAM

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This paper will examine the use of test scores for diversifying a college developmental reading program. Specifically, the Reading and Study testing program, diversity of reading levels, and resultant program diversification developed will be described.

The Reading and Study Program is a component of the Center for Developmental Education in the University College, University of Cincinnati. The other components of the Center for Developmental Education; the Writing Laboratory, the Computer-Assisted Instructional Laboratory, and the Upward Bound Program, work collaboratively to provide a support system for the underprepared college student. The Reading Program's primary objective is to aid student retention by providing spaced, systematic instruction and practice for students who have demonstrated deficiencies in basic reading skills. Its focus is on expanding and strengthening the basic reading skills (vocabulary, comprehension, and study skills) necessary for college survival.

The Reading Program serves students enrolled in University College who are identified by the Degrees of Reading Power Test in a ten week summer testing program. Approximately 10% of the Program's population are referred from instructors, advisors, counselors, or other students. These students come from all colleges within the University of Cincinnati system. The newly identified College of Education students are an example of the latter group. To determine if Program students are being taught effectively, first, student scores from the summer testing were examined.

Testing Program

To appropriate screen students who need developmental reading assistance, all incoming freshmen in the University College are tested using the Degrees of Reading Power Test (Form PA-2) during a 10 week period in the summer preceding their college entry.

The Degrees of Reading Power Test was developed by the New York State Education Department, Touchstone Applied Science Associates, and the College Board for the purpose of assessing a student's ability to comprehend prose materials written at various levels of difficulty. Each form of the test consists of several 325-word prose passages in which seven words are deleted. Students are instructed to choose the deleted word from five possible alternatives using contextual clues. There is only one correct response for each blank. To select the correct response, students must be able to read and understand the passages.

Selection of the cut-off point was determined by examining the readability levels of college texts found in the Degrees of Reading Power Test's publication, Readability Report (1981). According to that report, a unit score of 64 is equivalent to reading material used by New York schools in grade 12. The mean unit score levels of college texts in the report ranged from 64 to 75 units. Thus, a unit score of 64 is a minimal prerequisite for successfully reading college textbooks. Entering students scoring 64 units or under are required to enroll in the Effective Reading course sequence during their Freshman year.

Reading Levels

Data collected from Summer, 1983, identified 326 students who were placed into the Developmental Reading Program's Effective Reading I course. The range of unit scores of these 326 students was from 33 units to 64 units.

Table I shows the reading level, number of students, and percentage of students in the identified population.

TABLE I

Developmental College Students' Reading Levels

Level	Number of Students	Percentages
Middle School Grade 8 and Below	124	38%
High School (Low) Grades 9-10	53	16%
High School (High) Grades 11-12	149	46%
	326 students	100%

Table I shows that students who read at 8th grade level and below comprise 38% of the total population. These 8th grade, or low reading level students' scores, were fifty eight units or below on the Degrees of Reading Power Test. Fifty-three students, or 16% of the total 326 students, scored either fifty nine or sixty units. The largest group, 46% of the identified population, scored from sixty one to sixty four units. Prior to collecting this data, an observational estimate of students who read markedly under high school level, was 10% of the Program's population. This new data fully establishes the need for program diversification because of the range of scores and the large percentage of students reading at a very low level (38%) or near the 12th grade cut-off point (46%).

Program Diversification

The Program's primary offering has been a three quarter sequenced course, Effective Reading I, II, and III. This course focuses on increasing and strengthening vocabulary and comprehension skills, and instruction in the knowledge and application of study skills. The areas covered in each course are as follows:

Vocabulary Skills

- Word Attack Skills—Phonics
- Structural Analysis of Words
- Contextual Clue Analysis
- Word Meanings—Greek and Latin Roots
- Borrowed Words
- Dictionary Skills

Comprehension Skills

- Literal Facts and Concepts
- Inferential Facts and Concepts
- Topic and Main Ideas
- Main Idea and Supporting Sentences
- Paragraph Development and Organization
- Purposeful Reading—Skimming and Scanning

Study Skills

- Study Schedules
- Time Management
- Study Strategies

SQ3R Study Method
Systematic Approach to Notetaking
Test Preparation

The instructional base of each course is a blending of vocabulary, comprehension, and study skills. Two workbooks are used for Effective Reading I and II; one has exercises in vocabulary development and the other has exercises in comprehension and study skill development. The Effective Reading III course utilizes a workbook that contains a series of reading selections. After each reading selection, evaluative comprehension questions are found that aid group discussion. With each class enrollment of 20 to 25 students, and class periods of fifty minutes, the amount of individual assistance possible becomes negligle. To increase this individual assistance, the diversifications listed in Table II were developed.

Table II shows program offerings by reading level.

TABLE II

Developental Program Diversification

Level	Program
Middle School	—Effective Reading I, II, III Sequence and below
	—Computer-Assisted Instruction Laboratory Vocabulary Skills Lab
	Fall—1 hr. credit Winter—1 hr. credit
	Structural Analysis Context Clues Study Skills Phonics Skills
	—Reading Clinic—Individual Diagnosis and Remediation
Grades 9 & 10 High School	—Effective Reading I, II, III Sequence
	—Study Skills course
Grades 11 & 12 High School	—Effective Reading I—Open-Laboratory format
	—Test-out policy for Effective Reading I and II

The goal for all developmental students is to bring their reading level from their program entry level to 12th grade within the academic year. The program modifications made for each reading level were designed to meet this goal for each of the three populations.

Two modifications were made for the student who reads at 8th grade level or below. The Vocabulary Skills Laboratory course was written and programmed on the computers in the Computer Assisted Instructional Laboratory. This course consists of a series of lessons in phonics, structural analysis, context clues, and study skills. Students can register concurrently for Effective Reading I and Vocabulary Skills Laboratory I in the Fall Quarter, and for Effective Reading II and Vocabulary Skills Laboratory II in the Winter Quarter. The Effective Reading course offers two credits each quarter, and the Vocabulary Skills Laboratory offers one credit each quarter. The Vocabulary Skills Laboratory's course content consist of areas that are most in need of reinforcement for the low reading level student. For example, phonics is reviewed in Effective Reading I because students already utilize most phonics skills and need only a review. The class time devoted to phonics is normally three class sessions. This time is inadequate for instruction of the low reading level student because their phonics skills are largely under utilized. The Vocabulary Skills Laboratory computer module provides the additional instructional assitance with an individual tutor for each student—the computer.

The second program modification for low reading level students is the Reading Clinic, a course for selected students who evidence the greatest need for remediation. The Reading Clinic students are given a series of informal diagnostic reading tests. Based on these test results, weekly hour-long tutorial sessions are planned by the assigned instructor. The tutorial sessions, along with the Effective Reading course sequence and the Vocabulary Skills Laboratory courses, provide the student with a reinforcing indiviudal developmental program. Results of test scores collected at the end of this academic year will show if the diversifications for low reading level students are sufficient.

The second population, although small (16%), demonstrates reading levels that are substantially below the 12th grade cut-off point. To progress toward the 12th grade reading level, the second group will probably need all three quarters of the Effective Reading course. Additionally, because insufficient time was available in the courses to cover study skills, a separate course College Study Skills was developed to be offered each quarter. In this course, all of the study skills will be presented and their application to other courses shown. The College Study Skills course will not directly affect the Degrees of Reading Power Test result. Its affect will be seen in the students' comments on the Survey of Reading Skills inventory given at the end of each quarter. In the Survey of Reading Skills, students are asked to rate themselves comparatively with other students in areas of knowlege of use and of study skill techniques, reading skills, and amount of recreational reading. The course's effect will also be seen by examining final grades in other courses taken during the year.

The largest group in the program are the 46% of students who read at or near 12th grade level. A test-out policy allows these students to discontinue the course sequence when their post-test score is 64 units or over. It is predicted that testing out will take one or two quarters for most of these students. To aid their rapid movement through the sequence, their Effective Reading courses were organized into an open-laboratory. The open-laboratory organization allows students to work independently through material selected after informal diagnostic test results were examined. The informal test results are used along with information obtained from examining student work from other courses taken. Modules are available for independent student work in these areas:

Textbook Study
Textbook Marking
Figurative Language
Writing a Research Paper
Study Aids
Types of Paragraphs and Methods of Development
Connotation and Denotation
Inferences
Surveying a Chapter in a Textbok
Main Idea
Test-taking Skills

According to their needs, students are also required to take KERNEL, a computer module emphasizing the development of main ideas and/or ROOTS, a computer module emphasizing how parts of a word help one to understand the meaning of the word.

A final program modification is the Paired Effective Reading I and II course. Students who are enrolled in Psychology I are automatically enrolled in Paired Effective Reading I. The paired course directly assists students with the content course's vocabulary, concepts, and study skills such as test taking. Student motivation and achievement appear to be higher in the paired courses because students see the direct application of reading skills to the paired course content.

Summary

After examining the data from the 1983 Summer Testing, these conclusions are made:

The diversity of student reading levels in the Reading and Study Program was more than had been assumed. The reading level spread is from third to twelfth grade. Thirty eight percent of the total population obtained a reading level of eighth grade or under. Sixteen percent of the total population obtained a reading level of ninth or tenth grade, and the remaining forty six percent obtained a reading level of eleventh or twelfth grade.

These numbers indicate that at least two and possibly three separate student populations exist in the Reading and Study Program. A large (38%) low reading level population in the program appears not to be receiving the amount of individual help needed to sufficiently increase their reading levels to appropriate college reading levels. Two diversifications, Computer-Assisted Instructional Modules and the Reading Clinic, were described as augmenting the basic course offerings.

A small (16%) group of the population reads at a substantially low reading level. To progress towards the twelfth grade goal and increase knowledge of study skills, one diversification, the addition of College Study Skills, was added to their course requirements.

Finally, the last and largest population (46%) reads near the program screening cut-off point. Their progress needs to be evaluated at the conclusion of each quarter. Monitoring their class progress can be adequately done through an open-laboratory. The final program diversification is a paired reading course available for any student in the Reading Program.

In conclusion, program diversification for as heterogeneous a group of students as those found in the Reading and Study Program is difficult. The diversifications described are still in the process of being implemented in the Reading and Study Program. Further inquiry into yearly test score gains, student and instructor observation of progress, and content instructor's evaluatio of student performance will determine what adjustments need to be made in these program modifications.

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PREDICTING AND EVALUATING STUDENT TEACHERS' PERFORMANCE IN READING INSTRUCTION

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In order to apply for certification from state departments of education, graduates of approved teacher-training programs in 17 states must pass the National Teacher Examinations (NTE), a form of minimum competency testing designed to improve the quality of teachers employed in school systems. During the past two years, the NTE has been revised and a Communications Skills subtest has been added. The new Core Battery, which replaces the Commons Exams, was administered for the first time in November, 1982. Revised NTE subtests now include the Core Battery subtests (General Knowledge, Professional Knowledge, and Communications Skills) and the Area Examination.

While the revised NTE is anormed and validated measure of teacher knowledge, questions have been raised as to its ability to predict teachers' actual performance in the classroom, particularly in the area of reading instruction. This pilot study is designed to investigate the following:

1. What is the magnitude of the relationship which exists between 20 student teachers' performance on the revised NTE and their undergraduate grade point average prior to student teaching, scores from the American College Test (ACT), demographic data (race, sex, and age), and curriculum?
2. What is the magnitude of the relationship between 20 student teachers' actual classroom performance, as measured by the Teacher Performance Assessment Instruments (TPAI) and their performance on the NTE?

METHODOLOGY

Subjects

Twenty student teachers were selected at random from a population of 76 seniors who were enrolled in student teaching in the Spring Semester, 1983, who taught children enrolled in public schools in southwestern Louisiana. Ten student teachers majored in elementary education, ten in secondary education. All possessed a minimum overall grade point average of 2.5, and had completed curriculum requirements necessary for enrolling in the required all-day student teaching program. Elementary education majors had completed nine hours of reading instruction; secondary majors completed six hours.

Data Collection

Access to demographic data and test scores was provided by the College of Education, with anonymity of subjects guaranteed. Observations of actual classroom performance were conducted by one trained observer using the Teacher Performance Assessment Instruments (Capie, 1981). Each student teacher was observed three times, for a total of 60 observations, each observation lasting approximately two hours. All observations were scheduled by the observer with the student teacher and his/her supervisor.

The TPAI provide detailed behavioral descriptions of teaching

skills which describe specific teacher behaviors by means of a scale point system. Three of the five instruments which comprise the TPAI were employed in this study: Teaching Plans and Materials, Classroom Procedures and Interpersonal Skills.

In order to investigate the 20 student teachers' actual classroom performance, they were each observed three times (Observations 1, 2, and 3) over a semester's duration. Students were scored on observable behaviors they exhibited either in writing lesson plans or during actual classroom instruction with children. Scores on the three subtests (Teaching Plans and Materials, Classroom Procedures, and Interpersonal Skills) were totaled in order to generate the Total TPAI score. Forty-five indicators were scored on the total instrument during each observation.

The validity of preliminary editions of the TPAI was investigated through a variety of research studies conducted by faculty of the University of Georgia, who developed the instrument in response to a request from the Georgia State Department of Education. Content validity was determined via a statewide experts' opinion study which verified the skills, their indicators, and descriptors as those essential for good teaching, while construct validity has been examined through a factor analysis of skills and indicators and by correlating TPAI assessments with other teacher observation instruments. Criterion-related validity has been investigated by correlating elementary and secondary teachers' TPAI scores with a variety of criterion variables, including pupil achievement on standardized tests, pupil achievement on teacher-made tests, and observations of students' on-task behavior. Criterion-related validity was also investigated by correlating TPAI scores with measures of students' perceptions of characteristics of the school climate and learning environment (Ellett, Capie and Johnson, 1981).

Data collected was coded and input on a Honeywell Multics mainframe computer. All statistical analyses were computed using the Statistical Package for the Social Sciences (Nie, Hull, Jenkins, Steinbrenner and Bent, 1975).

RESULTS AND CONCLUSIONS

Descriptive statistics revealed mean age of the student teachers to be 24.1 years, with a mean ACT composite of 16.6. Eighteen were female, and 18, white. Though the sex and race of the subjects reflects the population of 76, the small number of males and females precluded further analysis. Also, the State Department of Education Bureau of Teacher Certification, which originally required student teachers to take both the original and revised NTE during the transition period (in order that researchers at Educational Testing Service could determine correlations between the two editions of the NTE), bowed to pressure from students and deans of Colleges of Education and accepted scores from either the original or revised NTE. Only eight of the 20 subjects participating in this study took the revised NTE. Analyses involving revised NTE scores are limited due to the small number of students taking the test.

Pearson r product moment correlation coefficients were computed to determine the extent of the relationship between ACT composite scores, student teachers' curriculum (elementary/secondary), cumulative gpa, and age (N = 8). Statistically-significant correlations ($p < .01$) were noted between curriculum and the Professional Knowledge subtest ($r = .77$), and between cumulative gpa and the Communication Skills subtest ($r = .89$). and General Knowledge subtest ($r = .89$). The correlation between cumulative gpa and the Area Examination was 0.66 ($p < .03$), while the correlation between age and the Area Examination was -.57 ($p < .05$). Only one statistically-significant ($p < .05$) correlation was noted between subtests on the NTE and the TPAI: the correlation between the NTE Area Examination and the Interpersonal Skills subtest of the TPAI was .60.

Of the eight student teachers who took the revised NTE, elementary majors scored higher on the Professional Knowledge subtest, while students with higher cumulative gpa's scored higher on the Communication Skills, General Knowledge and Area Examination subtests. Older students scored lower on the Area Examination than did younger students.

Little correlation was noted between the NTE and TPAI subtests, indicating that the two tests measure different factors and behaviors. The NTE does not correlate highly with actual classroom performance of the student teachers observed in this study.

Pearson r coefficients computed between TPAI subtests and student eachers' ACT composite scores, curriculum (elementary/secondary), cumulative gpa, and age were sometimes statistically-significant, but low (r's = .56 and below). Actual classroom performance as measued by the TPAI does not correlate highly with knowledge as measured by the ACT, curriculum, cumulative gpa, or age for the 20 student teachers in this study.

Correlated t-tests were computed to examine the 20 student teachers' performance on the 45 indicators from the first to the second to the third observation, and on the three subtests and total TPAI.

Several statistically-significant differences were noted on the Teaching Plans and Materials subtest from the first to the third observation. The student teachers as a group performed below the criterion score of three on a five-point scale on 11 of 15 indicators. On five of the indicators statistically-significant differences were noted between students' averages from the first to the third observation, with mean peformance lower on the third observation than on the first.

Ideally, student teacher performance should show a measurable increase over a four-month period. However, with this random sample, student performance declined on these 11 criteria (astericks indicate statistically-significant decline in performance at the .05 alpha level or below):

1. Specifies or selects learner objectives for lessons;
2. Specifies or selects teaching procedures for lessons;
3. Specifies or selects content, materials, and media for lesson ($t_{1,19} = 2.13$, $p < .046$);
4. Specifies or selects materials and procedures for assessing learner progress on the objectives ($t_{1,19} = 2.67$, $p < .015$);
5. Organizes instruction to take into account differences among learners in their capabilities;
6. Organizes instruction to take into account differences among learners in their rates of learning;
7. Uses teacher-made or teacher-selected evaluation materials or procedures to obtain information about learner progress ($t_{1,19} = 2.44$, $p < .025$);
8. Obtains and uses information about learners from school records;
9. Identifies learners who require the assistance of specialists;
10. Obtains and uses information from co-workers and parents to assist with specific learner problems;
11. Obtains information on the effectiveness of instruction.

The observer noted that when student teachers did specify objectives for the learners, the objectives were frequently copied from the teacher's edition of a textbook. In other words, in-

stead of objectives being designed for particular students, the students were fitted into a curriculum without regard for the appropriateness of the curriculum's objectives for these particular students (the square peg in the round hole problem). Examination of written lesson plans and queries on planning via the structured interview which forms a portion of the Teaching Plans and Materials subtest revealed student teachers did not specify teaching procedures, content, materials, or media for lessons. One student teacher informed the observer at the end of the semester that he had not written one lesson plan during the entire semester.

On the average, these randomly-selected student teachers had difficulty organizing instruction to take into account children's capabilities for learning, their rate of learning and their learning styles. The student teachers had difficulty evaluating academic progress, identifying children with suspected problems, and obtaining information on the effectiveness of their actual classroom instruction.

On the Classroom Procedures subtest, average performance of the 20 student teachers was rated below average on five of the 20 indicators (none of which improved significantly during the semester):

1. Uses instructional equipment and other instructional aids;
2. Uses instructional materials that provide learners with appropriate practice on objectives;
3. Provides feedback to learners throughout the lesson;
4. Uses procedures which get learners initially involved in lessons;
5. Helps learners recognize the purpose and importance of topics or activities.

Instructional equipment and teaching aids were used infrequently, if at all, by the 20 student teachers. The most popular method of presenting content to pupils was the lecture method. Guided practice on specific objectives, with feedback provided by the student teacher, was not often observed. Rarely did the student teachers provide anticipatory set for the content to be taught, nor did they help learners see the relevance of the content being studied.

As a group the 20 student teachers met or exceeded minimum performance on the Interpersonal Skills subtest of the TPAI. They demonstrated enthusiasm for teaching, were concerned about developing positive self-concepts among their pupils, and had little or no difficulty managing classroom interactions. However, the supervising teacher and the observer were also in the room with the student teacher, and it is possible that the presence of two other adults, one of whom was the regular classroom teacher, prevented discipline problems from developing.

The investigators did note, however, results of a correlated t-test which revealed a statistically-significant decrease in the average score on the Interpersonal Skills instrument from the first to the third observation ($t_{1,19} = 2.42$, $p < .026$). The mean score for the final observation indicated the students were marginally competent, whereas at the beginning of the semester, they had been competent.

CONCLUSIONS

In summary, to answer the two questions posed at the beginning of this study, (for this random sample of 20 student teachers only):

1. High, statistically-significant correlations were noted between student teachers' cumulative gpa and their performance on the Communication Skills, General Knowledge, and Area Examination subtests on the revised NTE.
2. A high, statistically-significant correlation was noted between student teachers' majoring in elementary education and higher scores on the Professional Knowledge subtest of the revised NTE.
3. A moderate but statistically-significant correlation was noted between age and performance on the Area Examination of the revised NTE, with younger students scoring higher.
4. Actual classroom performance was measured by the TPAI did not highly correlated highly with student teachers' performance on the revised NTE, with the exception of a moderate corelation noted between the NTE Area Examination and the TPAI Interpersonal Skills subtest ($r = .60$, $p < .05$).

Results of this study support the need for additional research in this area, including:

1. broadening the scope of the study to include student teachers enrolled at other universities in the state in order to determine if the results of this study can be generalized or must be restricted to one university;
2. conducting studies to determine the effects of supervising teachers on the performance of student teachers, particularly those supervising teachers trained in clinical supervision versus those who are not;
3. designing and conducting a series of studies involving evaluation of student teachers, submitting results of the evaluations to faculty of a College of Education, planning curriculum revisions designed to strengthen weakness, and re-evaluating other student teachers one year later; and
4. following a large random sample of student teachers through their student teaching experience into their first year of in-service education, in order to evaluate the differences in classroom performance with and without the supervision provided during student teaching.

In order to produce the best possible student teachers who could then, hopefully, increase academic achievement in public schools, two evaluation instruments appear to be needed: 1) a measure of teacher knowledge; and 2) a measure of actual classroom performance. The revised NTE appears to be the most valid and reliable measure of teacher knowledge at the present time. The TPAI may prove as successful in the measurement of actual classroom performance, with the emphasis placed on evaluation for improvement of instruction.

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HELPING STUDENTS FOLLOW WRITTEN DIRECTIONS

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At various points in almost every schoolday, students are expected to follow some form of written directions. The quality of these directions and the students' ability to comprehend their messages will have a profound impact on the learning process. Since it is common knowledge that many directions are written in an extremely concise style and equally apparent that a lack of reading competence precludes many students' understanding of written directions, it is imperative that teachers (1) take positive steps to bridge the gap between these directions and their students' reading abilities and (2) assist their students in becoming self-sufficient in the skill of following directions.

IMPORTANCE OF TEACHING DIRECTIONS

Why is learning to follow written directions so crucial? As students pass through the grades and enter into the mainstream of a society caught up in an information age, they will be literally deluged with basic life demands that require them to follow written instructions. Consequently, students will need to know how to follow directions of varying importance and complexity. These instructions will include basic directions such as how to prepare frozen foods, assemble children's toys, set digital watches, operate microwave ovens, program home computers, as well as more critical directions like interpreting labels on medicine bottles or properly installing wood burning stoves and smoke detectors. While it is difficult to forecast future trends, it seems reasonable to assume that the amount of written directions students will encounter will increase at a rate relative to the growth in technology. If this is the case, then students will be inundated with a staggering increase in tasks requiring accurate interpretation of written procedural instructions.

PRESENT STATUS AND PROBLEMS IN TEACHING DIRECTIONS

How well are our schools doing in preparing students for a future laden with direction-oriented, technological tasks? Are teachers adequately preparing their students to comprehend the sophisticated directions connected with the proliferation of new technological advancements? Research suggests otherwise. For instance, in an analysis of five major basal reading series, Durkin (1981) found surprisingly little attention devoted to helping children comprehend procedural text. While the series did contain practice exercises, no provisions were made for systematic instruction and guidance in dealing with this unique brand of discourse. In a related vein, Braswell (1982) reported that many teachers have received limited training in how to give clear directions, and hence, tend to provide only superficial classroom instruction in properly following directions. Evidence of chronic problems in following directions was provided in a recent study by Fox and Siedow (1980). The authors found that tenth and eleventh graders who were average readers understood teacher-written directions in four content areas approximately only 80 percent of the time, and poor readers in the same grades understood the directions only about 50 percent of the time. In light of these three studies, it is not surprisng that many students read prose fluently, yet have chronic problems in deciphering written instructions.

What other reasons contribute to students' inability to deal with written directions in a more effective manner? The answer seems to be partially explained by three limitations teachers face in attempting to instruct students in understanding written directions. These are: (1) an overemphasis on atomistic methods of reading instruction, (2) a dearth of appropriate materials and equipment, and (3) the complexity and nature of the task itself. First, with regard to instructional methodology, the major focus in teaching reading seems to be on the mechanics of learning to read rather than on reading to learn. The two are not mutually exclusive; however, by breaking down the reading act into minute skills, teachers inadvertently encourage students to look for trees at the expense of seeing the forest. The end product of this atomistic, skills approach to reading instruction is over-analytical readers who focus on the features of written language so much that they fail to grasp the meaning of the message, or in this case, the purpose and content of the directions.

Secondly, monetary restrictions frequently force teachers to operate with outdated equipment and materials which are not intrinsically motivating. In fact, much of the outmoded materials and equipment teachers use in schools today provide students with directions that are archaic both in wording and in format. Unfortunately, it is often difficult to secure highly motivating materials and devices which capitalize upon students' immediate interests and needs. If these materials could be obtained (by the teacher or students), it would stimulate independent and guided practice in reading directions and a manipulation of the materials necessary for performance of the required tasks.

The third difficulty in helping students deal with procedural tasks stems from the fact that following directions is simply a special case of reading. It varies from the normal reading of prose (for information or aesthetic reasons) in each of the following ways:

1. Written procedural directions are usually more concise than prose. There is little redundancy in directions as they are typically stated once and only once. To add to this conciseness, directions are often composed of a continuous string of short imperative sentences.
2. The act of following directions imposes many interruptions upon the reader. At various points, the reader must stop and perform manual tasks before returning to the text. These jumps from the text to the manipulative task and back again to the text cause the normal pattern of eye movement to be disrupted. Still another interruption occurs when the directions are illustrated. Here the reader must shift attention not only between the text and the manipulative task but also between the pictures.
3. More than most other kinds of written language, instructions must be explicit; following directions is simply more writer-dependent. Writers cannot presuppose prior knowledge of the readers at any level. Consequently, any failure on the part of the writer to be perfectly clear is almost sure to result in a failure for the reader.
4. Immediate application of the knowledge is essential in following directions. In much of the reading students encounter in schools, provisions are made for delayed applications of the information (such as a test at a future date) but not for instantaneous and practical demonstrations of concept assimilation.
5. Directions primarily function on an all-or-none principle.

> The reader cannot be content with partial understandings because there is very little, if any, margin for error. Either the task is completely accomplished or it might just as well not have been attempted at all.

Given these many differences between following directions and other types of reading, it becomes easier to understand why students facile in narrative or expository text settings may still experience difficulty in following directions.

INSTRUCTIONAL SUGGESTIONS

How can teachers adapt their instruction to help students master the art of following written directions? First of all, teachers must realize the potential difficulty some sets of directions will present for their poor readers and be prepared either to supplement these directions with oral explanations of the task or to rewrite the instructions. Teachers considering rewriting either teacher-made or commercial directions should utilize some or all of the following suggestions: (1) use one sentence per direction, (2) substitute simple synonyms for difficult words, (3) avoid taking background information for granted, (4) ensure that essential intermediate steps have not been omitted or just implied, (5) avoid using lengthy or complex sentence structures, (6) avoid ambiguous statements, (7) omit irrelevant information, and (8) use numbers to mark the steps to follow. Teachers should also remember that modeling is a powerful teaching strategy. Throughout history, people have learned new skills via observation of a skilled model. Active verbalization of the processes and strategies the model is using can go a long way in helping children contend with directions.

Another idea to keep in mind is that students will learn more readily if the directions are inherently motivating and have transfer value to their lives. Since teachers' time is at a premium, it would seem mutually beneficial to enlist the students in locating these materials. For example, a homework assignment could be given in which each student is required to bring in two or three sets of directions relating to a special interest. The students could tape the directions to a blank sheet of paper and then use another sheet to write questions about the directions. To reinforce this learning experience, the teacher could include the words the students had difficulty with in vocabulary lessons for subsequent weeks.

Altering the directions and having students interact with them is another way to pique interest and develop students' schema for following directions. For example, teachers should try leaving out various steps in directions to determine if the students can both identify which steps are missing and fill in the gaps. Similarly, the teacher could change the directions slightly and allow the students to examine how the change would affect the outcome. Key words such as verbs, sequence cues, and directional cues can be modified to result in some interesting and possibly outlandish products. For illustrated directions, the teacher could scramble several pictures and have the students reorder them. This will help sensitize them to the necessary congruence between pictures and the text.

Perhaps most importantly, teachers should put students in the role of the writer. To accomplish this, a teacher would fist need to familarize students with common forms directions may take. One common form consists of a three-factor format: (1) sequence cues (2) verb and (3) directional. For instance,

"FIRST COLOR the BOTTOM of the boat brown."

Written directions can take several forms simply by changing the word order of the key verbs (bend, erase, identify), directional/locational cues (along, midway, through), and sequence cues (before, next, finally). Interestingly, Dixon (1982) reported that action-first (verb-first) sentences were easier to understand than other formats. Considering the wide variety of directional formats students are likely to encounter, teachers would be well advised to introduce their students to several directional formats by using the three factors mentioned above in different orders. Students should be taught how to detect the various forms and be given plenty of practice in using the forms in their own writing. By asking students to write their own sets of directions for common tasks, teachers give them a perspective that might otherwise be missed. It is only by noting the absolute precision which must be achieved in writing directions that students gain a full appreciation of the complexity inherent in following directions. Through writing, students may gain some critical insights into the function and nature of a procedural text.

Finally, teachers may want to consider modifying their instruction to include some of the following instructional goals. (1) Familiarize the students with the uses of the imperative sentence—to give commands or to make requests. Some students have trouble with the understood "you" as a subject. (2) Teach verbs used as key commands (such as "underline," "locate," "circle," "rotate," "insert," "discard," etc.) as sight words. Newcastle (1974) has developed a useful list of vocabulary words which frequently appear in written directions. (3) Expand students' visual and auditory memory skills by starting with single commands and successively adding a greater number of and/or more elaborate commands. A game-type format would make this an enjoyable learning experience. (4) Encourage complete reading of instructions in advance of attempting the task in order to gain a general overview of the nature of the task. (5) Have students write instruction-laden tasks for others to follow. These tasks could include the following: how to get from one locale to another; how to fold a paper airplane; and how to tie certain knots. The students could sequence these tasks by writing individual steps on 3 x 5 cards, shuffling the cards, and having a classmate reorder the steps. As a final proof of understanding, the students should actually perform the task. In writing their directions, the students should be encouraged to be concise by eliminating extraneous material. This exercise would be especially helpful for some poor readers because it would provide an opportunity for them to display their expertise in manipulative tasks. (6) Develop "picture reading" skills by isolating the pictures and requiring students to attempt the task required by the directions without the aid of the written instructions. The students could also attempt to develop their "own" text around the picture sets. (7) Encourage students to assist one another by working in teams. After two students have written directions independently, they could read them to each other. This interchange should help identify points that need clarification.

The suggestions listed above are only a few of the ideas teachers can use to prepare their students for the real-life experiences of following directions. As our society becomes increasingly technological in nature, teachers must assume a greater share of the responsibility for showing students how to follow written procedural instructions. It is important that teachers not shirk this responsibility because at some point in the near future, an individual's ability to understand and remember sequences of operations will almost surely attain the status of a legitimate survival skill.

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THE GHOST OF COMPUTERS PAST, PRESENT, AND FUTURE: COMPUTER USE FOR PRESERVICE-INSERVICE READING PROGRAMS

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One can hardly open a magazine or newspaper without seeing an article about declining reading achievement. Blame is widespread: some attribute the decline to cultural changes, some to the kids themselves, and others to parents. Most, however, allude to the possibility that the quality of teachers in our schools may be one factor. Regardless of who is to blame, the widespread criticism is a call to arms for teacher educators.

A major component of programs for training teachers is supervised work with pupils for practice in instruction, diagnosis and remediation. However, competency-based teacher education (CBTE) courses and practicum courses have disadvantages. First, they are costly in terms of personnel for supervision; and in this day of budget cuts at federal and state levels, many preservice teachers are spending less time in schools with children and receiving less feedback on their performance while there. Secondly, CBTE courses are time-consuming, for both the supervising professor and the preservice teacher. And thirdly, such practicum courses sometimes provide inadequate experiences for the types of learning which preservice teachers need. As you know, "SOME experience is not the same as having the RIGHT experience, which in turn is not equivalent to LEARNING the right things from it" (Birnbaum, 1982, p. 4).

So what are we who are involved in teacher education to do when faced with decreased money and limited faculty? Although by no means a total cure, one innovation which may help increase teaching effectiveness and ensure that preservice and inservice teachers learn from the right experiences is available today. That innovation is computer assisted instruction, or CAI, and especially computer simulations. Use of CAI allows students to move at their own rates and frees professors for more supervision and small group work.

In order to develop your understanding of computer use for training preservice and inservice teachers and to ensure that time is not wasted "reinventing the wheel," let's look briefly at some of the ghosts of past CAI uses for teacher training.

In 1969 project CARE (Dupuis, 1974) began in Pennsylvania. CARE, or Computer Assisted Renewal Education, was developed at The Pennsylvania State University with the purpose of providing inservice to teachers in the state's sparsely populated areas. This instruction was provided by a mobile van with 16 computer terminals. Each unit was furnished with light sensitive pens, rear screen projection, audio tapes, a handbook, and pre and post tests. The computer programs branched extensively depending on the answers teachers entered. The van was operated 12 hours per day, 6 days a week, and its cost effectiveness allowed the addition of a second van in 1973. Since then computer programs have been written for CARE which instruct teachers in the early identification of handicapped children, in diagnostic/prescriptive teaching of pre-school and primary children, and in eduation of the visually handicapped.

In 1975 the National Right-to-Read Office funded a preservice computer-assisted program for teacher preparation in reading at Northwestern University (Blachowicz & Fairweather, 1978). This program used computers to manage its instruction as well as present some of its instruction. Computers were used to:

1. store student registration information.
2. do on-line assessment of student competencies, store this information, and develop a prescription of the lessons each student was to complete.
3. act as an "electronic blackboard" for messages between instructor and student.
4. route the student through the lessons prescribed.
5. provide simulation lessons on diagnosing reading difficulties, using CLOZE, and teaching word attack skills.
6. provide a bibliography of pertinent readings to be assigned each student based on his performance in the tutorials.

After this program was piloted in 1976, it was used in further preservice training, in preparing tutors for an adult reading academy, and for Right-to-Read inservice training.

Between 1976 and 1979 several people (Henny and Boysen, 1979; Roe & Aiken, 1976) reported on computer simulated programs which were used to teach informal reading inventory (IRI) techniques to college students. Normally the computer simulated an instructor who guided students through the construction of an IRI, and then the computer modeled children with reading skill weaknesses and permitted teacher trainees to identify these weaknesses by evaluating an IRI's results.

Florida State University had in 1977 a rather efficient computer managed instruction program (Mason, 1980) which tracked students who wanted to be tested for reading, basic English competencies, or for a grade in one of their courses. The computer determined the appropriateness of the requested test and provided a printed list of prescriptions for the student. Actual testing was done with machine-scorable tests which limited the amount of computer time, and thus money, required; yet fast feedback was provided to students and records were available to professors.

These are just examples of the use of computers as aids in the training of preservice and inservice teachers. They range from comprehensive programs for preservice teachers like that at Northwestern University, to mobile delivery of inservice instruction like that of project CARE, to small scale simulations for providing instruction in diagnostic procedures.

Why are these examples earlier referred to as the "ghost of computer use past?" Simply because many of these projects and programs are now no longer in use—they are dead. And most died for one of two reasons: either they were developed for mainframe computer systems which were too costly, or they were devloped through a grant and when the grant money ran out they were abandoned.

THE GHOST OF PRESENT COMPUTER USE FOR TEACHER TRAINING

It would be impossible, without calling every college of education and knowing with just whom to speak at particular colleges, to adequately list all the present uses of computers for teacher training. So let's look at the "ghostly" outline of some of the uses.

First, although there must still be mainfame computer systems in use for presevice and inservice teacher training, the only one of which this author is aware is PLATO, and it provides only limited programs for such training. A survey done under a National Science Foundation (NSF) grant (Babb, 1982) found that 90% of higher education institutes have computer facilities but that nearly one half are used for administrative purposes and not educational purposes. Out of the other 50%, uses include research and development, word processing, and financial management.

More and more colleges of education now have stand-alone microcomputers. A survey (Uhlig, 1982) mailed to deans/directors of education at 134 colleges and universities in the Southeast (Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, South Carolina, and Tennessee) during the fall of 1982 showed that 38.2% of the 110 respondents used microcomputers for instructional assistance in their preservice programs. Furthermore, 15.5% of those colleges and universities had developed and offered at least one specific course for preservice teachers in the use of microcomputers for instruction and management in the classroom, while 23.6% had offered such a course for inservice teachers. Almost assuredly these percentages have increased within the last year.

Colleges of education are incorporating computer training in a number of ways (Diem, 1982). Some are simply adding one more course to their graduate requirements. These are most often taught by a math or computer science person. Some add a specific education course in educational technology or restructure an old audio-visual course to include computers. Still others are spreading instruction concerning computer technology and its impact throughout the entire teacher training program; and a few, like the Bank Street College of Education, are even offering graduate programs in computers in education.

For example, Douglas Clements (1982) at Kent State University's Early Childhood Education Department outlines a course which utilizes the computer as 1) a tutor, tool, and tutee. Graduate and undergraduate students use the computer as a tutor to experience, evaluate, and modify instructional programs for children; 2) as a tool for word processing and information management; and 3) as a tutee to be "taught" through learning to program.

George Mason, in the Reading Education Department of the University of Georgia, teaches a similar course for graduate students but without the emphasis on programming. His course focuses more on making teachers familiar with the variety of software available for several types of microcomputers commonly found in schools, on evaluating and modifying software, and on the features of computer text which enhance its readability. George McNinch, West Georgia College, teaches a related course and has conducted a summer workshop in which reading teachers learn to use word processing as an adjunct to reading instruction (personal communication, December 9, 1983).

Lehigh University in Bethlehem, Pennsylvania, has a new graduate degree program in educational technology ("Bulletin Board," 1982) to "train educators to teach WITH computers and not ABOUT computers." And Stanford University in Palo Alto, California, has a new Master of Arts major in interactive educational technology which combines courses in computer science, educational psychology, and curriculum theory. It is designed to provide teachers with the skills to produce quality educational software.

There are also numerous instances of individual professors who are having their students use tutorials, games, word processing, and simulations for specific segments of the classes they teach.

These are just a few examples of the ways colleges of education are presently utilizing computers for preservice and inservice training.

THE GHOST OF FUTURE COMPUTER USES FOR TEACHER TRAINING

The next question to be asked is, how will computer technology be used in the future for teacher training? Future uses are just a spectre on the horizon, and, unlike the ghost of the past and the ghost of the present, it is very difficult to see. But just like the ghost of Christmas future, its form can still be changed.

The vision this author would like to see would include colleges of education using interactive videodiscs for presenting some of the lectures and for providing many of the practice sessions now done as homework. Such assignments as the evaluation of readability levels of books to be used with hypothetical students, the teaching of directed reading lessons, the construction of a cloze passage, and simulated testing of students could be handled by computers and videodiscs. The computer could guide students through these procedures, presenting information by videodisc (just like watching television), quizzing students at various decision points by having them respond to questions presented on the computer screen, and providing immediate feedback and further explanation if warranted. A record of individual responses could be kept for the professor who could then provide small group work on those areas indicated by the class profile.

In the future, teachers will need to know about networks because many reference sections of libraries will be accessed through networks. Some encyclopedias are now available via computer networks because print produced electronically is already cheaper than print on paper. Furthermore, adding new information to encyclopedias (or other materials such as science textbooks) as it becomes available in our rapidly changing world is much easier when these texts are electronically produced. Therefore, future teachers will need to be educated in the use of networks and in turn will need to teach those skills to their students. Just as children now are taught about card catalogs and reference indexes they will need to be taught about the use of networks in the future.

Future teachers will also need to learn some featues of database management because more and more schools will be keeping records of students in computer files. Greater use of on-line testing for public schools is probable because of the immediate feedback it provides and the easy production of individual and class profiles. Therefore, future teachers will need to know how to use utility programs for developing on-line tests. And instead of taking field trips which involve all the hassles of parental permission slips and supervision, to say nothing of the costs to school districts, more teachers in the future will use teleconferencing to bring information and experiences to the classroom.

All of these uses of computers, which teachers of the future

will use, need to be taught now to preservice teachers by their colleges of education. In turn, the use of interactive videodiscs, networks, data-base management, and teleconferencing NOW could increase the efficiency of most colleges of education and the effectiveness of much of their instruction.

This scenario has great potential for improving the efficiency and effectiveness of teacher training now and the quality of future teachers that colleges of education are producing for several reasons.

1. First, preservice teachers would be provided with designed rather than accidental sets of experiences, thereby ensuring they will be able to deal more effectively with a greater range of situations when encountered in the classroom.
2. Secondly, such experiences before entering a classroom decrease the chances that inexperienced teachers might do educational harm to any student with whom they later work in the classroom.
3. Thirdly, the professor is freed for more supervision of preservice teachers in the classroom, for more small group work, and perhaps for more research.

Unfortunately, this scenario may not be the accurate one for colleges of education in the future. Many colleges and universities cannot afford the equipment needed. Contrary to situations in countries like France and Germany where the goverment is funding much of the equipment and teacher training in technology, the burden of teacher training and equipment cost in the United States is falling upon university programs and local systems (Hebenstreit, 1982; Keil, 1982).

Nor do many colleges have the faculty trained to implement such programs. Not only is it a matter of having trained faculty but of being able to afford to release them from other teaching duties for the time it takes to develop needed programs and implement such programs. Perhaps such incentives as credit toward promotion and tenure could result in this vision becoming reality. Already a few universities have the official statement included in their handbook that publications and "other creative materials" will be accepted for purposes of promotion and tenure.

The computer was born on a university campus, but colleges of education have not often set a high priority on providing the technical training that teachers of the future will need. If colleges of education do not take responsibility for leadership in computer education, others will (Babb, 1982; Deim, 1982; Huntington, 1981). And those "other" may well be businesses and institutions who lack the dedication to and the expertise in providing educational opportunities befitting a democracy (Clements, 1982).

The manner in which colleges of education respond to the challenge of providing properly trained teachers will help set the tone of the microcomputer revolution. However, the time in which to respond to that challenge is rapidly diminishing.

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EMERGENT READING LEVELS

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An important yet little understood question is: What constitutes reading levels? The idea of reading levels has increasingly pervaded the field of reading since Betts first introduced the concept in 1943. Amalgamating ideas from the 1920's and 1930's, Betts created the informal reading inventory, with three reading levels, for a 'subjective' reading evaluation or diagnosis. Linguistically, the term level is understood to mean "a horizontal plane which presupposes the existence of another plane parallel to it" (Greimas & Courtes, 1982). Whether Betts' concept of levels is parallel is less than clear (Powell, 1971; Smith & Smith, 1983), and whether there are just three reading levels is also problematic. Theory (Vygotsky, 1962) would suggest that there may be an additional reading level which is even more significant than the three previously designated reading levels. It is the purpose of the paper to discuss the construct of mediated reading levels which may have implications for a fourth reading level, the emergent reading level (Powell, 1984), or to offer a redefinition of the mode of obtaining the existing instructional reading level.

Betts designated his three reading levels as the independent or basal reading level, the instructional reading level, and the frustration reading level. The parameters of each level are defined in the label ascribed to each. The independent level is that level in which a reader can process written material without any significant other support. This level indicates the ability to function in activities like recreational reading, seatwork, and homework. The students can do it by themselves. The instructional level is that level in which the reader needs assistance, direction, or support from the teacher to adequately process a paricular piece of prose. Information gain is greater at this reading level. (Bormuth, 1975) The frustration level is where the reader cannot effectively gain information from the material even with assistance and support from others.

The traditional concept of reading levels is measured by presenting lists of individual words and passages that become increasingly more complex due to the systematic manipulation of such variables as word frequency, sentence length, number of proposition, and semantic association value. The assumption here is that levels of linguistic complexity are synonymous with levels of reading processing complexity. Grade norms are defined in terms of the level of linguistic complexity mastered; with "mastered" being defined in terms of accuracy and speed in relationship to the level of dificulty of the material, i.e., the operational criteria indigenous to hierarchical theories of word recognition. (Betts, 1943; Cooper, 1952; Powell, 1971, 1981; Lovett & Hansen, 1976; Starlin, 1971).

Reading levels have traditionally been defined in terms of reading models based on assumptions of Hullean psychology of learning and stuctural linguistics (Fodor, Bever, & Garrett, 1974). These assumptions include: (1) language is hierarchically organized, (2) to learn to read, one must first learn to process the lowest level and (3) one must then learn to process each successive level; (4) as lower levels become processed more efficiently, more time may be spent in processing higher levels; the results are faster and more accurate word recognition (LaBerge & Samuels, 1974) and more cognitive resources available for the comprehension process (Perfetti & Hogaboam, 1975).

A different notion about the causative nature of reading levels can be extrapolated from the work of Vygotsky (1962, 1978). Vgotsky's theory is embedded in his general genetic *(developmental) law of cultural developm*ent and his concept of internalization. For Vygotsky, the formation *of h*igher mental functions, (i.e., cognitive development) involves social interaction, movement from other-regulated behavior to self-regulated behavior, semiotic mediation, and the zone of proximal development (Wertsch, in press). It is the later concept, the zone of proximal development, that has significant implications for diagnostically determining reading levels in the placement of pupils for instruction.

The zone of proximal development is defined as the difference between a student's "actual developmental level as determined by independent problem solving" and the higher level of "potential development as determined through problem solving under adult guidance or in collaboration with more capable peers. (Vygotsky, 1978, p. 86). More informally, this zone is the range created by the difference between the level of unaided performance a child can achieve, and the level he could achieve with aid. Not only are the levels within the zone of importance, so is width of that zone, with a greater zone range indicative of greater learning potential.

To instantiate a zone of proximal development, a dynamic testing versus a static testing style becomes of significant value (Budoff, 1972; Feuerstein, 1979; Cioffi & Carney, 1983). Dynamic testing methods measure the level of performance a student may achieve via teacher/student interaction. Most present testing techniques use static testing procedures, (i.e., actual developmental level which can be performed without direction or assistance.) To derive an instructional reading level which fosters a child's growth potential, testing procedures must examine each level with mediated activity,—within the range where growth takes place, the zone of proximal or potential development.

The testing procedure for functioning within the zone of proximal development and those techniques used within the prersent framework of the informal reading inventory stand in stark contrast to one another. One uses social interaction; the other does not. One uses mediation; the other does not. One tries to find a level where a child can learn with assistance; the other derives a level where the student functions with minimal support. One operates in the realm of where optimum growth takes place; the other indicates a baseline where growth may begin. A further contrast in testing styles illustrates the differences in the results obtained.

In giving an informal reading inventory, an examiner begins by establishing a basal or independent reading level, a level with a high degree of accuracy and fluency. Then successively more difficult passage levels are presented without any assistance or mediation. An instructional reading level is arrived at by an acceptable performance within a given set of criteria for accuracy, performed without guidance or instruction. The child simply reads with only a suggestive or general motivating statement as an introduction to a given passage. The derivation of reading levels is accomplished by students answering a pre-specified percentage of questions correctly by themselves and maintain a criterion level of oral reading proficiency without any assistance.

To determine an emergent reading level, that level of highest performance within the zone of proximal development, a markedly different approach is undertaken. Once an independent level of performance (synonymous with the instructional level in the informal reading inventory framework) is

established, the teacher begins to provide more complex material and assists the student(s) in dealing effectively with that complexity. The types of intervention and instructional aid Vgotsky implied includes demonstration, modeling, coaching, and/or asking leading questions (Camperell, 1981). In other words, the teacher actually teaches a child how to process and understand the difficult prose in order to establish a level which the student can gain information, if given assistance.

In a cognitive-developmental model of reading with dynamic assessment, the assumption is an interaction among reader variables, activity variables, material variables, and the criterial tasks (Brown, Bransford, Ferrara, & Campione, in press). Static testing excludes these variables except perhaps the change in material complexity. In utilizing a cognitive-development approach, the notion of mediation is such that as instruction proceeds the child should become less dependent upon an adult and begin to plan, monitor, and control their own processing for information gain. There should be a gradual movement from the inter-psychological plane to the intra-psychological plane, from the other-regulated behavior to self-regulated behavior. (Wertsch, 1979).

Mediation, social-verbal-interaction, is aimed toward increasing self-regulation. Other-regulation techniques attempt to modify the characteristics of the learner, re-design the material, or lead an activity for assisting in development of self-regulation. In a dynamic reading assessment session, the change in materials is usually done by increasing the linguistic complexity. In essence, the material response becomes an extraneous or classification factor. (Calfee, 1975). However, mediation can be incorporated in a dynamic testing situation by focusing on changing the learner via activating schema, building interest, structuring and organizing words and scored concepts, skill transformation, semiotic mediation, and setting the direction for comprehension activities. (Becky, McKeown, McCaslin, & burkes, 1979) Mediation can also involve the changing of the activity. Activity may include strategy training (Hansen & Pearson, 1980), modeling, guidance through a task, leading with questions, reciprocal questioning (Palinicsar, 1984; Manzo, 1969), suggesting alternative responses, semiotic dialogue, demonstrating solutions, explaining, rehearsal, elaboration, etc. Whatever task is selected for focus, it must be framed in a coaching, verbal-interactive style.

Whereas Vgotsky proposed his zone of proximal development for use in mental assessment dyads, the same concept appears to be appropriate for determining placement in reading. Instead of using a static business-like manner in determining placement, a more dynamic style involving mediation is likely to result in leading the student into the zone of proximal development. With adult support and assistance, youngsters are likely to receive higher placements under a dynamic testing pattern. Placement can then result in placing a child where growth takes place and let "instruction lead development" (Vgyotsky, 1962, p. 104). The highest level obtained within the range of potential development would be the emergent reading level. If instruction leads development and if dynamic assesment provides higher placement than static testing, then the present method of assigning students to reading levels is likely to result in underplacement. The static assessment of reading levels, without mediation, provides an underestimate of the level of functioning a child can perform with assistance. (Powell, 1982; Campione, Brown, Ferrara, & Bryant, 1983.)

At the emergent reading level, new higher mental structures (Vgotsky, 1981) and new strategies for learning emerge. With continued support and encouragement, these new structures and strategies raise the student's level of functioning to where they can be used with minimal direction. Further practice, with knowledge of results, accommodates these new structures and strategies and they then can function automatically. These new higher mental structures can then be fully utilized to learn more complex structures. A cycle of learning from the emergent level to the instructional level to the independent level is created. What emerges is the gradual cycle of internalization which is recycled for new and higher cognitive functions.

The call for instructional placement at the emergent reading level, within the zone of proximal development, is beginning to appear in the educational literature (Camperell, 1981; Powell, 1982; Mason, Roehler, and Duffy, 1984). What is needed is for the construct to be supported by empirical data. Should empirical evidence support this construct, it could have sociopolitical significance, as well implications for assessment and instruction.

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MAINSTREAMING AND THE MERGING OF ROLES IN READING INSTRUCTION

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During the past decade, there has been much controversy over the differences or similarities between approches to diagnosis and remediation used by learning (LD) and reading professionals. There has also been debate over the roles and responsibilities of LD, reading or regular classroom professionals in relation to reading instruction. What seems to bring reading instruction into clearer focus, across professions in special and regular education, is the issue of mainstreaming.

There is no universal concept of mainstreaming. However, adaptation to a multicategorical approach and adaptation to the continuum of services model—efforts to meet varied needs within any given population—involve a new perspective. Educators and researchers must consider whether models and methodologies in a domain, such as reading instruction, are new or old and whether they benefit some children in an exclusive category or all children along a continuum of needs.

For over a decade, models and methodologies for mainstreaming have evolved rapidly. At this point, the general perspective of transitions from special to regular education is no longer as segmented as it once was. The continuum of services model, which seeks to meet the full services goal through instruction and other support services to children according to their need and regardless of categorical labels, has been effective in bridging transitional gaps at a more deliberate pace. Mainstreaming also illuminates similarities in what practitioners are actually doing to provide reading diagnosis and remediation in the LD self-contained setting, the LD resource setting, the reading resource setting, and the regular classroom during reading instruction.

The purpose of this paper is to indicate that, although professsionals in the areas of learning disabilities and reading have often claimed that they operate in very separate and different domains using different approaches to reading instruction, much of what they do is similar. The practice of mainstreaming is a pivotal point from which LD and reading professionals can meet and recognize that much of what they have been doing is similar and that much of what they do not share ought to be shared.

To address the purpose of this paper, I will briefly discuss a definition of mainstreaming, the application of labels, and the overlap in categorical characteristics in children with reading disabilities. These ideas should be kept in mind as we consider various aspects of the framework for delivering reading instruction which will include program models, preservice and inservice training, the IEP, general instructional guidelines, and specific methods. Each of these elements is an integral factor in the implementation of reading instruction for students with varied needs, and the concepts associated with each of these elements reflect a greater trend toward common knowledge instead of variance. If we keep in mind the fact that about 80% of the learning disabled population is reading disabled, and consider the impact of the mainstreaming movement as a focal point for defining the roles of LD and reading professionals, it becomes evident that these roles are subject to a merger—if not in title, then in practice, operation, function and implementation.

THREE MAIN IDEAS FOR SPECIAL AND REGULAR EDUCATORS

First, according to Mauser and the Council for Exceptional Children, mainstreaming involves:

> providing the most appropriate education for each child in the least restrictive setting; looking at the educational needs of children instead of clinical or diagnostic labels such as mentally handicapped, learning disabled, physically handicapped, hearing impaired, or gifted; looking for and creating alternatives that will help general educators serve children with learning or adjustment problems in the regular setting; and uniting the skills of general education and special education so that all children may have equal educational opportunity (CEC, 1975).

Second, in response to the tendency of educators to categorize and label, Rosner (1971) has cautioned against the dangers of inexact application of reading diagnostic categories to which general and special educators may be vulnerable. He indicates that the most commonly misused terms are dyslexia, minimal brain damage, and specific learning disability, and he warns against the problems created by the use of diagnostic labels as

the end product of diagnostic evaluation. In a discussion of the great similarities among many remedial methods, regardless of the diverse labeling or categorical terminology which exists, Rosner insists that the focus of diagnostic practice become prescriptive rather than descriptive.

Third, of about five main characteristics upon which the definition of learning disability is based, any of these may be factors that contribute to the difficulties of a non-LD child who is considered merely reading disabled. PL94-142 states that children with physical handicaps, emotional disturbances or social disadvantages are to be excluded from the learning disabled category. In actuality, there are children bearing characteristics of this exclusion clause to be found in LD classrooms. They are sometimes referred to as multiply handicapped. There are also children who bear some or all of the characteristics of LD children, except those in the exclusion clause, who are placed in regular classrooms. It seems that, more often than not, the fine line to be drawn between profile characteristics which determine placement in an LD classroom or group, as opposed to a regular class with remedial instruction, is a result of budget and quota limitations. As for reading instruction, perhaps our utmost concern should be to teach exceptional and non-exceptional readers according to their needs, regardless of their differences.

FACTORS IN THE IMPLEMENTATION OF READING INSTRUCTION

Program Models

If we look at the key points in a variety of recommended models for offering reading instruction along a continuum of needs, it becomes appparent that, although some of these models are intended for a specific sub-group, all of them could be put to use in teaching reading to both exceptional *and* non-exceptional learners. Programs of instruction for the mainstreamed child have also been successful with a great variety of children, regardless of whether they are categorized as having exceptional educational needs (EEN) or not.

According to Smith and Otto (1978) schools need a compehensive reading program in order to permit coordination of special and remedial services and programs. A comprehensive reading program, defined, is one which includes developmental, accelerated, adapted, corrective, and remedial instruction designed to help each student achieve at capacity. Adapted instruction and remedial instruction are particularly geared to meeting the needs of mainstreaming. Adapted instruction is said to involve modification of pace and expectations, in view of "slow learners" limitations. Remedial instruction is said to differ from adapted instruction in terms of expectations. Remedial instruction is typically offered to students who have severe difficulties and deficits in reading, with the expectation that their deficits will be eliminated or substantially reduced. According to Smith and Otto, students with limited cognitive abilities need adapted instruction, while students who are not achieving at their capacity level may need remedial help. Most often, remedial instruction is given outside the student's regular classroom by a specially trained teacher instead of the regular classroom teacher. This is not always the case, however, and both types of instruction may be provided by the same teacher at any given time as the need arises.

Smith and Otto advise that the classroom teacher and the specialist must have an open working relationship that focuses on the needs of the students. They suggest that a comprehensive reading program (as described above) would facilitate such rapport. They also suggest that reading specialists spend more time working as consultants to classroom teachers, so that more students with reading problems can remain in the classroom. It is quite likely that, as a result of this type of exchange, teachers would then become "specialists" themselves when the need arises.

Lee and Berger (1978) indicate that the general trend in reading diagnosis is toward early prediction with a shift from testing perceptual factors to increased interest in cognitive and linguistic correlates of reading and learning. Remedial programs are said to have a tendency toward incorporating findings from interdisciplinary diagnostic procedures.

Allen (1975) describes the development of instructional procedures for teaching reading skills to learning disabled and mentally handicapped children, which focus on the development of prototypes of teaching procedures that are based on cross connecting the learning, language, and reading domains. On the other hand, Lewandowski (1977) indicates that, after all the special diagnosis, the treatment for the specific learning disabled child involves primarily what reading teachers do with remedial readers. He has suggested that for specific learning disabled students whose primary problem is reading, diagnosis and remediation should be performed by reading specialists.

McCarthy (1978) suggests that, in reference to PL94-142, the child with reading problems also needs involvement with a program dealing with persisting life needs, personal adjustment, and occupational adequacy. He views corrective reading programs as intermediate steps in a continuum of services model of special education.

According to Harris (1980), many reading specialists can benefit from further study in such areas as psychological testing, behavior modification, and diagnostic and remedial procedures in speech, spelling, handwriting, written expression and mathematics (areas more often considered the domain of the LD specialist than of the reading specialist). Artley and Hardin (1976) and Sartain (1976) have indicated that the reading specialist of the future will be a teacher of the whole child, not just of reading, and she or he will receive training that will include elements of school psychology and learning disabilities. As for learning disabilities, Larsen (1976) suggests that the responsibilities for children with learning problems should be assigned, not by title, but according to the specific competencies of available professionals. (In other words, if a learning disabled child needs assistance in reading and a learning disabilities specialist is assigned to aid the child in this area of need, then the LD specialist should be competent in reading instruction).

Preservice and Inservice Training

Preservice and inservice training are critical factors in developing teachers' competencies in diagnosis, remediation, and regular instruction. Since there are separate certification programs for reading and LD professionals, additional preservice and inservice sessions would seem to be a necessary supplement to enhance the delivery of reading instruction to those who may fall in the grey area between the learning disabled and remedial readers. Needless to say that a required course in mainstreaming for all teacher certification candidates can only bring to light a limited awareness of the similarities among these domains—learning disabilities and reading.

Schultz (1982) has stated that:

> documented questions from front-line practitioners can be used as a foundation for developing defen-

> sible teacher training and inservice programs that adequately prepare future special and general educators to meet the needs of handicapped learners (p. 366)

While this suggests a potentially effective way of achieving curriculum implementation *for* mainstreaming, it also acknowledges a need for quality preparation and supervision of educators, both special and general, on the basis of common ground. Extensive preservice and inservice training is needed to solve the problems which result from low level of consciousness in regard to exceptional educational needs as well as the mainstreaming process. Schloss and Miller (1982) emphasize this need by indicating that "teachers who have had little exposure to children with exceptional learning characteristics tend to respond to the labelled individual in a typical manner." They also indicate that:

> although quality preservice training can be successful in improving teachers' diagnostic, remedial, and behavior management skills, inservice training is essential in providing teachers with the resources and support that ultimately manifest and maintain positive attitudes and perceived ability to teach the exceptional child (pg. 135)

According to Harris (1980), reading specialists have been concerned about the competency of many learning disabilities teachers to conduct remedial instruction. However, LD teachers are somewhat reluctant to do a clinical practicum in remedial reading. Perhaps this reluctance is justified, due to the overwhelming similarities between assessment procedures and methods and curriculum components of the two domains. It is for this reason, if not for others, that inservice training is so important. (I would be hard-pressed to determine whether it is more difficult to get candidates for certification to complete an additional practicum, if it is not required, or to get certified teachers to attend inservice programs). Obviously, the practicum is a one-semester experience—to be required of prospective teachers; whereas, inservice training when effectively administered is a supplementary activity which can aid teachers periodically, for the duration of their service.

In adressing the need for inservice, Adelman (1972) considers the primary function of the resource teacher or specialist as that of helping regular teachers meet the needs of all pupils (on a one-to-one inservice consultation basis). He describes a successful inservice teacher education program which involved demonstration and discussion of teaching methods by the specialist, beginning practice of new techniques by the teacher, full implementation of the teaching responsibility by the teacher, and follow-up contact between the specialist and regular teacher. In another program geared toward preparing classroom teachers to work with severely underachieving pupils through an internship in a regional learning disability center, Gold (1970) discusses the effectiveness of a Title III funded diagnostically oriented center. Internship training was said to consist of tutoring individually and in small groups, conferring with clinic personnel, preparing diagnostic case studies, administering tests, and holding case conferences, seminars, and inservice colloquia. Perhaps this is a viable means to ensure that some teachers (regular and reading), already in practice, will be able to have a sample of practicum experience that will deliver common knowledge and expertise in reading and learning disabilities.

The IEP

Even though preservice and inservice training is instrumental in developing competencies for the delivery of reading instruction, techniques that are studied in these sessions are not necessarily put into practice by LD and reading practitioners. It is a widely held opinion that, regardless of placement structure, the one organizational guideline that seems to have the most potential for assuring that the mainstreamed EEN child *will be taught reading* skills in an effective manner is the Individualized Education Plan (IEP). (The IEP is a mandatory documentation of goals and objectives specifically designed to meet the individual needs of handicapped children). The IEP is also regarded as having the potential to facilitate some cohesion among those teachers, support services, and coordinators who can contribute to a comprehensive reading program. From this perspective it is also possible that the IEP holds the potential to create or reveal much overlap in the roles and responsibilities of professionals delivering reading instruction.

Although it is not a requirement, PL94-142 does allow the participation of remedial reading teachers and reading specialists on multi-disciplinary teams and IEP committees. PL94-142 list remedial reading teachers among the professionals who may be qualified to administer intelligence tests as part of the diagnostic workup on childern suspected of having learning disabilities. (To date, few, or not enough, reading teachers have been trained in those skills. However it is clearly implied, by way of PL94-142, that such training will increase).

Not only will the guidelines set forth by PL94-142 encourage mutual participation and exchange between professionals of learning disabilities and reading, but it will also shed light upon the many similarities in methods already used in reading diagnosis and remediation in these supposedly separate domains. The design and implementation of the IEP for the mainstreamed EEN child should optimize this type of exchange—where regular and special education professionals meet and share ideas about methods and materials.

Ironically, the design and documentation of IEPs is, more often than not, regarded by special and regular professionals as a time consuming and undesirable obligation, but it is also perceived by many professionals in both fields as a device which should be utilized to individualize instruction for all children along a continuum of needs., The concept of an IEP for every child in every class can only be realized if administrators are willing to provide teachers with more time for planning and preparation, but the sacrifice would be worthwhile. The result might be that more specialists and teachers in learning disabilities and reading would forget their titles and acknowledge the common cause of addressing children's needs, regardless of categorical labels.

General Instructional Guidelines

IEPs are highly specified and individualized blueprints for the delivery of instruction to EEN children, but if we consider some of the suggestions for the general structure of methods used in reading instruction for the exceptional child in a mainstream setting, it is even more obvious that so called "special approaches" are also practical for application to a variety of learners by either LD or reading professionals.

In a discussion of task presentation, Mauser (1982) advises that instructional programs for students with cognitive differences must take into consideration a variety of associated learner traits and environmental variables. He gives the following suggestions for presenting learning tasks:

1. tasks should be well designed, planned, and uncomplicated—new tasks should contain the least elements and most elements should be familiar

2. tasks should be brief—to prevent student burnout
3. tasks should be sequentially presented in small seps built upon previously achieved steps
4. each task should be designed for some success
5. overlearning should be built into lessons
6. tasks should be relevant to the learner's life environment

More specifically, Wheat provides the following guidelines for the classroom teacher of mainstreamed students with reading problems:

1. emphasize positive attitudes toward reading and good self-concepts
2. maintain realistic performance expectations
3. maintain a consistent emotional climate
4. provide recreational reading experiences

Certainly many effective teachers across all subject areas, observe these considerations in delivering reading instruction to their students. These practices should be common to both learning disabilities and reading professionals, as well as content area teachers, in administering diagnosis, remediation, or regular instruction to any child as the need arises. For example, regular teachers or other non-specialized professionals should not have to wait for the completion of the referral process for a suspected EEN child, in order to extend some of the most basic pedagogical considerations which have been mistakenly classified as mainstreaming strategies, nor should they be at a loss for some of the more specific methods and materials which would be of imediate use to any child displaying an unusual learning style or need.

Specific Methods

If we take a look at some of the specific methods of diagnosis and remediation that have been found to be successful with learning disabled readers, there should be no doubt that these approaches can be used with a good many readers from a much wider variety of categories.

The Goodman Miscue Analysis is considered by many to be a realistic and worthwhile measure of an underachiever's true level of competency in comprehension of oral reading, as well as a means of determining a child's strengths and weaknesses. It seeks to determine whether a child's "erroneous" performance in reading tasks consists of acceptable substitutions for desired responses—as contrasted to real errors.

Campbell (1973) has investigated typewriting contrasted to handwriting, in a study of learning disabled childen with poorly developed motor skills, to teach beginning reading. Reading gain scores showed that the typewriting students gained significantly more reading vocabulary skills. This approach has also been used at the secondary level as a pilot program for remedial reading at a high school in New York and has shown positive results.

Klann (1972) has advocated the use of teen tutors for primary and middle grade underachievers. This practice has been implemented at a middle school in Wisconsin for a group of special education children and, although there are no official conclusions yet, the approach is said to show general success and is perceived as potentially useful with a larger variety of students in this school population. This practice has also been transformed into "peer tutoring" in other settings. In such cases regular classmates can tutor mainstreamed classmates, or classmates who have different strengths and weaknesses can be paired to tutor each other, while the teacher works with a particular group sharing common needs.

Finally, Lovitt and Hansen (1976) have devised a plan for the use of contingent skipping and drilling to improve oral reading and comprehension. The method permits students who are one to three years behind in reading to skip portions of their readers if they have surpassed certain standards. When they fall below specific levels, drill in the particular area is given. Lovitt and Hansen have concluded that both practices improve oral reading and comprehension.

CONCLUSION

If we consider all of the elements involved in delivering reading instruction and ask ourselves whether these concepts are old or new, applicable to instruction for mainstreamed students or for regular students only, or applicable to reading instruction for both students with and without exceptional needs, the answer is the same for all concerns. It is apparent that what is found to be effective for delivering reading instruction to learning disabled children and/or children being mainstreamed may also be beneficial in teaching all children—according to individual needs. Likewise, methods beneficial to all children should be shared as common knowledge to both professionals of reading and learning disabilities.

The elements of program structure for the EEN mainstreamed child (structure, support service, reinforcement design, instructional methods and materials, and methods of evaluation) can be successfully adapted to the needs of regular children with reading difficulties. Interdisciplinary diagnostic procedures and individualized task analysis can be seen as no less effective with regular children who have specific reading/learning needs than with EEN children. Quality preservice and inservice training based on common knowledge between LD and reading professionals can help educators to meet the needs of EEN *and* regular children, since the specific deficits of the EEN child are often the same needs of regular children with learning problems—only more intense.

Many educators who look to the future feel that the IEP can be an effective aid in meeting the educational needs of all children. The advice of Mauser and Wheat on task presentation and general guidelines is aptly suited to any IEP or instructional approach and to children with a variety of needs in the domain of reading. Finally, the specific examples of methods for classroom instruction are characterized by approaches which are also adaptable to all children along a continuum of needs.

What is most important is not the distinction between teaching to exceptional or non-exceptional children, but instead, recognizing that various approaches can be adapted to benefit all children. General and special educators and researchers must become more concerned with how programs and methods work for everyone, whether their perceptions of children's needs are shared, and to what extent mutual understandings are manifested in classroom instruction where exceptional and non-exceptional children are involved.

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TEACHERS' PERCEPTIONS OF FACTORS THAT HINDER READING INSTRUCTION

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"The first step in improving the American high school is to unplug the PA System" (Boyer, 1983, p. 142).

Like Boyer, we agree with this statement by an exasperated teacher. The only thing we would change would be the omission of the adjective, "high." As university-level instructors of pre- and inservice courses, we have long been aware that elementary teachers must contend with many factors that hinder reading instruction, of which the loudspeaker is only one example. This observation was brought sharply into focus during the past two years when we spent regular periods of time observing instruction and testing children in several elementary schools as part of an ongoing research project. Testing and instruction were frequently interrupted by the loudspeaker or by messengers requesting supplies or information. Also, it was not uncommon to arrive at a classroom for a scheduled observation only to find the entire class at a special program that had come up. These experiences appeared to be as frustrating to some of the classroom teachers as to us. Often they had had less than 24 hours' notice of a change in schedule.

A brief review of the literature indicated that our experiences were not unique. In discussing the implications from the Beginning Teacher Evaluation Study, Denham (1980) observed that announcements, telephone calls, filling out of forms, and calling of students out of class were some of the activities that might be seen in schools besides instruction. She suggested that current emphasis upon the efficient use of time called attention to the problem of repeated interruptions and recommended formulation of policy to reduce classroom interruptions.

In a 1978 dissertation, Berkeley (cited in Karweit, 1981) reported that between 33% and 61% of kindergarten classroom time was devoted to administrative procedures and 2% to 16% in contending with interruptions. Earlier, Conant (1973) found that 20 elementary teachers spent approximately 90 minutes of a 300-minute school day (about 30%) actually teaching, and that nearly one-half of their work day was consumed by routine work that required no professional preparation or skills.

In several studies summarized by Karweit (1981), percentages of school time actually used for instruction ranged between 21% and 69%. Citing additional research in which amounts of academically engaged time were calculated, Karweit concluded that, if nonengaged instructional time were subtracted from the half of the school day estimated to be actually used for instruction, elementary students would be productively engaged for less than 100 minutes per day.

Compounding the problem are the research findings indicating that time allocated for instruction and time actually engaged in learning activities are major factors in achievement (Brophy, 1979). The allocation of time to reading/language arts instruction usually has a high priority in most elementary schools; however, how the time is used is apparently what makes the difference (Allington, 1983; Conant, 1973). Brophy (1974) found pupil attention and direct instruction by teachers to be significantly related to second and third graders' gain scores on language arts and math subtests of the Metropolitan Achievement Test. Stallings (1976) reported significant correlations of .30 to .60 between engaged time and third and fourth graders' reading and math scores. Other studies reviewed by Karweit revealed correlations between time on task and standardized test scores to average about .50.

Because of our experiences and the indications from research, we wanted to ascertain teachers' perceptions of the "time to teach" problem. By means of a questionnaire survey, we sought answers to this research question: To what extent do elementary teachers feel that their ability to instruct is being hindered by a variety of factors present in today's classrooms?

METHOD

Sample Selection

All of the elementary schools containing grades K-6 in a large metropolitan county were identified. These schools were of two types: 15 K-6 schools having several classes at each grade level; and 14 6&K schools, containing mostly sixth grade classes and a few kindergarten classes. From each of these schools, 40% (N = 335) of the instructional staff was randomly selected to receive the questionnaire.

Questionnaire

In order to get initial input from teachers, an open-ended questionnaire was developed and administered to 50 teachers attending graduate classes in reading and language arts. This

instrument asked teachers to list the major factors which, in their opinion, often hindered them in their principal task of instructing students. From the responses to this instrument, a structured questionnaire containing 12 items was developed, with space provided for items to be added. Results of pilot testing of this instrument with 40 teachers in another graduate class indicated no need to add or delete items which described hindrances, although some minor modifications in wording and format were made.

The final version of the questionnaire divided the 12 items into two groups. For the first seven items, respondents were asked to rate on a scale from 1 to 5 both frequency of occurrence of the item (1 = Never happens, to 5 = Happens very frequently) and degree of hindrance of the item (1 = Never hinders instruction, to 5 = Almost always hinders instruction). For the last five items, respondents were asked to rate degree of hindrance only. All 12 items are listed in Table 1.

Space was provided for respondents to write in and rate any additional hindrances to instruction which they believed should have been included. Although the questionnaire was completed anonymously, respondents were asked to indicate whether they were regular classroom or "other than regular classroom" teachers and at what grade level(s).

Procedures

The questionnaire, together with a cover letter and a stamped return envelope, was mailed to 335 teachers in May near the end of the school year. A second mailing was sent to everyone who had not responded after 3 weeks.

Before the data were analyzed, the researchers read the write-in items on all returned forms. If the suggested hindrance seemed to be actually a part of one of the 12 items listed on the questionnaire, it was not considered to be an additional item. The rating given by the respondent to the suggested hindrance was compared to the rating given to the listed item into which it fit; the higher of these two ratings was used. If the write-in item concerned a hindrance that was not listed on the questionnaire, it became an additional item to be included in the analysis. This procedure produced five additional items; however, since they were mentioned by only 2, 1, 3, 2, and 2 respondents, respectively, they were not included in the following analyses.

TABLE 1

Summary of Responses by Total Group

Questionnaire Items	Frequency $\bar{X}$	Degree $\bar{X}$
1. All interruptions which disturb the whole class. For example, loudspeaker, messenger, request for information/equipment, etc.	3.24	2.97
2. All interruptions of one or more students leaving or returning for any kind of special programs. For example, SLD, Chapter 1, chorus, newspaper, etc.	3.53	3.08
3. All instructional interruptions when whole class is scheduled for special programs. For example, assembly, movie, 7th grade orientation, etc.	2.23	2.77
4. All system-required testing. For example, pre-post, state assessment, CTBS, etc.	2.23	2.53
5. All system- and/or school-required record keeping. For example, test results, book count, money collection, IEP's, etc.	2.98	2.74
6. All miscellaneous duties. For example, typing and/or duplicating materials, cafeteria and/or bus duty, meetings unrelated to instruction, etc.	3.16	2.47
7. All communication problems. For example, those among teachers, between teachers and administrators, between classroom and resource teachers, etc.	2.49	2.31
8. All aspects of the physical environment. For example, traffic patterns; space; noise; inadequate or inappropriate equipment, materials, or facilities, etc.		2.90
9. All student-related problems. For example, discipline, parental support, physical and/or mental health, wide disparity in achievement levels in one class, etc.		3.70
10. All curriculum-related problems. For example, inflexibility, lack of teacher input, lack of time to cover mandated content, curriculum determined by tests, special programs such as drug or guidance programs, Nature's Classroom, etc.		2.87
11. All problems related to class size.		3.19
12. All administrative support problems. For example, not backing teacher actions with students and parents, not providing flexibility in budget allocation, not involving teachers in school planning, etc.		2.63

RESULTS

Of the 335 questionnaires sent out, a total of 182 (54%) were returned, 119 after the first mailing and 63 after the second. From 13 to 16 responses were from teachers in each grade, K-5; 66 were from sixth grade teachers; and 29 were from teachers of combination grade classes.

The analysis of the responses to the questionnaire will be presented under the following classifications.

1. Total Sample: responses of the sample as a whole (N = 172-180).
2. Type of School: responses of teachers in K-6 schools (N = 118) compared with those of teachers in 6&K schools (N = 60).
3. Type of Teacher: a comparison of the responses from regular classroom teachers (N = 133) with those from teachers not assigned to regular classes (e.g., music, special education, etc.) (N = 49).
4. Grade Level: responses of primary teachers (grades 1-3) (N = 40) compared with intermediate teachers (grades 4-6) (N = 40). Only teachers assigned to regular classrooms in K-6 schools were included in this analysis because we wished to avoid contaminating these results with representatives from 6&K schools or from teachers with special assignments.

Total Sample

Overall, the two items which ranked high in both frequency of occurrence and degree of hindrance were Items 1 and 2. Item 1, interruptions which disturb the whole class, ranked second in frequency of occurrence ($\bar{X}$ = 3.24) and fourth in degree of hindrance ($\bar{X}$ = 2.97) (see Table 1). Item 2, interruptions by students leaving or returning for special programs, ranked first in frequency of occurrence and third in degree of hindrance.

When only degree of hindrance was considered, Item 9, student-related problems, and Item 11, class size, ranked first and second, respectively, with means of 3.70 and 3.19. As stated before, Items 2 and 1 ranked third and fourth. The lowest rank-

ed items (means of 2.53 or less) were Item 4, system-required testing; Item 6, miscellaneous duties; and Item 7, communication problems. The remaining five items fell in the middle ranks, with means between 2.63 and 2.90.

Type of School

Teachers were sampled from two types of schools, traditional elementary organization (K-6) and sixth grade/Kindergarten centers (6&K). Since, in our experience, the 6&K schools seemed to be the focus for many special curricular programs, as well as orientation programs related to students moving to junior high school, we felt the faculty in the two types of schools might respond differently to some items. To identify the possible differences, a chi square analysis of type of school by item response was conducted. Of the 182 subjects responding, 178 indicated type of school; 118 were in K-6 schools and 60 were in 6&K schools.

The results of these analyses indicated that three items did show a significant difference between the responses of the two faculty groups. For Item 4, system-required testing, the 6&K respondents reported less hindrance than did the K-6 respondents ($X^2 = 9.26$, df = 4, $p = .05$). The 6&K respondents also reported that testing occurred less frequently, but the resulting X^2 was significant only at the .15 level.

Item 6, miscellaneous duties, also significantly differentiated the two groups, with the 6&K group reporting these duties being less of a hindrance than the K-6 group ($X^2 = 12.84$, df = 14, $p = .01$). However, the 6&K group reported a higher frequency on this item but at a p level of only .11.

Item 8, physical environment, was considered a greater hindrance by the 6&K group than by K-6 teachers ($X^2 = 12.48$, df = 4, $p = 01$.) This item had no frequency response related to it.

Type of Teacher

The 182 respondents were divided into two groups, regular classroom teachers (N = 133) and others (N = 49). Again, chi square analyses of item by type of teacher were performed. These analyses indicated that the responses to five of the items significantly discriminated between the groups. On two of these, both the reported frequency of occurrence and degree of hindrance discriminated. For Item 2, interruptions caused by students in special programs, the regular class teachers reported a greater degree of hindrance ($X^2 = 23.02$, df = 4, $p < .01$) and a greater frequency of occurrences ($X^2 = 38.50$, df = 4, $p < .01$). Responses to Item 5, system- and/or school-related record keeping, also distinguished between the two groups, with regular classroom teachers reporting a higher degree of hindrance ($X^2 = 12.10$, df = 4, $p = .02$) and a higher frequency ($X^2 = 10.78$, df = 4, $p = .03$).

The other three items for which responses exhibited significant differences were all on degree of hindrance rather than frequency of occurrence. A higher degree of hindrance was reported by regular class teachers for Item 9, student related problems ($X^2 = 10.32$, df = 4, $p = .04$), and for Item 11, class size problems ($X^2 = 23.55$, df = 4, $p < .01$). For Item 7, communication problems, the special teachers reported a higher degree of hindrance ($X^2 = 9.89$, df = 4, $p = .04$).

Grade Level

In the responding sample there were 40 primary and 40 intermediate teachers on the faculties of K-6 schools. Only two items showed significantly different responses between these two groups. For Item 2, interruptions caused by students in special programs, intermediate teachers rated the degree of hindrance higher ($X^2 = 17.72$, df = 4, $p < .01$). Intermediate teachers also reported class size (Item 11) to be a greater hindrance ($X^2 = 12.94$, df = 4, $p = .01$).

For two other items, differences between the two groups approached but did not quite reach significance. Intermediate teachers felt lack of administrative support (Item 12) was a greater hindrance than did primary teachers ($X^2 = 8.72$, df = 4, $p = .07$). On the other hand, primary teachers rated communication problems (Item 7) as occurring more often than did intermediate teachers ($X^2 = 8.48$, df = 4, $p = .08$).

However, the two groups did not differ on their ratings as to the degree of hindrance attributed to communication problems.

CONCLUSIONS AND IMPLICATIONS

Overall, it appeared that teachers felt very strongly about the negative effects of interruptions on their instructional efficiency. Items 1 and 2 ranked high in both degree of hindrance and frequency. Other areas rated high in degree of hindrance were problems of students and class size. These probably should be considered related since the negative effect of student problems on learning seems to increase greatly as class size increases. These results were expected, based on our experiences in schools. On the other hand, those items for which the respondents expressed least concern were in some instances surprising to us. Of the three low items, 4, 6, and 7, Item 4 (testing) was especially unexpected. It had seemed, from our contact with teachers, that they considered the amount of time spent on testing to be inordinate. However, it may be that this response was masked in our questionnaire because the record keeping was in an item separate from the testing.

The differences between the responses of teachers from 6&K schools and K-6 schools seemed to center on administratively controlled hindrances. On two items, miscellaneous duties and system/school testing, the K-6 teachers' responses indicated greater hindrance than those of the 6&K teachers. Apparently, teachers from K-6 schools feel that they are required to do more miscellaneous duties than do teachers from 6&K schools. As for the testing hindrance, it is difficult to understand the difference because testing is apparently controlled system-wide. Our initial reaction was to hypothesize that this was related to grade since a great majority of the respondents from 6&K schools were sixth grade teachers. However, there was no difference on grade level responses to this item.

Teachers in regular classes felt that their instructional efficiency was hindered by more factors than did special teachers. In fact, of the five items on which differences occurred, only one was ranked by special teachers as a greater hindrance. This one was in communication and seems to make sense when one looks at the role of special teachers, which often requires more communication with parents, regular teachers, and other specialists. On the other hand, regular teachers rated items related to students and class size, interruptions, and record keeping as greater hindrances than did special teachers.

The comparison of primary and intermediate teacher responses was interesting in that, of the four items which discriminated, only on the frequency portion of the communication item (Item 7) did primary teachers show a higher response than intermediate teachers. However, even though they rated the frequency higher, they did not indicate a greater degree of hindrance for communication problems. On the other three items, intermediate teachers reported that they believed class

size, administrative problems, and interruptions were greater hindrances.

There are implications from this study for teacher trainers, administrators, and researchers. First, teachers need to be made aware of those factors which have the potential to reduce their instructional effectiveness, particularly since they are increasingly being held accountable for the results of their teaching (i.e., the achievement of students). Teachers need to be instilled with what might be termed a "professional" attitude toward their responsibility for instruction. In our experience, there seemed to be little resistance by teachers to these disrupting factors; at times they seemed almost to welcome schedule changes which relieved them of their teaching task. While it might be argued that many of the factors are beyond the control of the individual teacher, there may be some which can be controlled if teachers are knowledgeable and determined to prevent further erosion of instructional time.

Secondly, administrators need to be made aware of those factors which teachers believe have a highly detrimental effect on instruction. It is possible that the negative influence of some of these factors could be greatly reduced through administrative action.

Finally, researchers need to try to identify behaviorally the degree to which instruction is actually being affected. For example, interruptions (Items 1, 2, and 3) ranked quite high in terms of teachers' beliefs about hindrances. An observational study documenting the frequency of occurrence of interruptions, the amount of time consumed by each, and their effect on the instructional process would be a first step. If a large amount of instructional time is being lost as a result of interruptions, then further research focused on ways to reduce this loss should be conducted.

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THE RELATIONSHIP OF GRADUATE EDUCATION STUDENTS' ACHIEVEMENT IN EDUCATIONAL RESEARCH TO THEIR READING ATTITUDES, ATTITUDES TOWARD EDUCATIONAL RESEARCH, GPAs AND NATIONAL TEACHER EXAMINATIONS

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It is generally held that favorable teacher attitudes toward reading will promote favorable attitudes in students and that favorable student attitudes toward reading will have a salutary effect on the achievement of those students in courses requiring a great deal of reading. However, Jerrolds, Benton, and McCutcheon (1975) have pointed out that because attitudes are partially emotional in their origins and often illogical in their manifestations, the relationships between attitudes and academic achievement are complex and unclear.

Schofield (1980) stated that,

> In literature relating to elementary school reading it is commonly contended that attitudes toward reading influence achievement in reading and that teachers' attitudes (and achievement) affect pupils' attitudes and achievement. As yet there is little research support for this contention. (p. 111)

Schofield's research results showed the complex nature of these relationships. He found that,

> ...high achievement and high attitude in teachers were positively associated with high achievement and high attitudes in pupils; in pupils of low achievement and low attitude teachers, achievement was low, but the attitudes were more favorable than those expressed by the pupils of middle achievement and middle attitude teachers. (p. 111)

Groff (1962), Askov and Fischbach (1973), and others did find that children's reading attitudes are related to some degree to their reading achievement. However, Elliott (1983) stated that a review of the literature revealed very little research related to the attitude toward reading for the college level student.

Mueller (1973) reported that many teachers did not value reading very highly, based on her informal assessment. Mueller did not examine the attitudes of different groups of teachers. It is reasonable to expect that those teachers responsible for teaching reading would have a more positive attitude toward reading than those teachers who do not teach reading, yet previous research has not adequately examined this question.

One method of beginning to sort out the complex nature of teachers' reading attitudes is to investigate the extent to which those reading attitudes relate to other variables in the teacher training process. Isakson and Ellsworth (1979) and Benton and Jerrolds (1983) found that taking a course in educational research improved subjects' attitudes toward educational research. However, Napier (1979) and Benton and Jerrolds (1983) found that research attitude scores were not significantly related to achievement scores in the course. Thus it appears the relationship of attitude and achievement should be further investigated.

The present study grew out of the 1982 Forum paper presented by Joan Elliott and makes use of the instrument she

designed for use in that study. As in the Elliott study, the focus of the present study is on attitudes of teachers toward reading. The specific objectives of this study were to:

1. examine the attitudes toward reading of graduate education students.
2. compare attitudes toward reading of graduate education students who teach reading with the attitudes of those who do not teach reading.
3. determine whether undergraduate GPAs, graduate GPAs, composite National Teacher Examination (NTE) scores, or attitudes toward educational research are significantly related to reading attitudes.
4. determine if attitudes toward reading are significantly related to achievement in a course having a heavy reading component.
5. determine whether undergraduate GPAs, graduate GPAs, composite NTE scores, or attitudes toward educational research are significantly related to course achievement.

METHOD

Subjects

Subjects were drawn from 83 students enrolled in five graduate sections of educational research during winter, spring, and summer quarters of 1983 at North Georgia College. Three students who were repeating the course were eliminated from the study, leaving a total of 80 subjects. All sections were taught by the same instructor.

Undergraduate GPAs were available for 76 students. Entering graduate GPAs at the beginning of the course were available on 59 of the subjects. (For 17 of the subjects, this was their first quarter in the graduate program, and data were not available for four transient students.) For admission to the graduate program, North Georgia College requires the NTE, the *Graduate Records Examination* (GRE), or the *Miller Analogies Test* (MAT). Forty-one of the subjects had composite NTE scores on record; six had NTE common scores; nine had the GRE; ten had the MAT; ten students were classified as non-degree status, pending submission of one of these test scores; and four were transient students.

Instruments

Attitude toward reading was measured by the 26-item Likert-type scale developed by Elliott (1983). Her reading attitude scale is an instrument designed to measure the attitudes of college students toward reading in three areas: school related reading, recreational reading, and general reading. Elliott has reported the reliability of the instrument to be between .80 and .90 using coefficient alpha.

Achievement in the educational research course was measured by two multiple-choice examinations constructed by the instructor of the course. All students took the same midterm and final examinations. All items on the examinations were matched with objectives for the course. Approximately one-half of the items were taken from the instructor's manual that accompanied the students' textbook (Ary, Jacobs, and Razavieh, 1979). The reliability estimate (KR21) of the midterm examination was .84, and for the final examination the reliability estimate was .87.

Attitude in the course was measured by the *Atittudes toward Educational Research Scale* (ATERS) administered on the last day of classes. To give greater assurance that the subjects would be truthful in their responses to this attitude instrument, subjects were told that their scores would have no effect on their grade in the courses and that, in fact, the ATERS would not be scored until their grades had been turned in.

ATERS is a 50-item Likert-type scale, designed by Isakson and Ellsworth (1979), which measures teachers' attitudes toward educational research. The authors of the instrument have reported an internal consistency reliability of .92 using coefficient alpha. The authors of the instrument report a number of construct validity studies indicating there is reason to believe the instrument to be an acceptable tool for examining teachers' attitudes toward educational research.

Andrews, Blackmon, and Mackey (1980), describe the purpose of the NTE as follows:

> The National Teacher Examinations are standardized, secure tests that provide objective measures of academic achievement for college seniors completing teacher education programs and for advanced candidates who have received additional training in specific fields. (p. 359)

The NTE is one of the most commonly used standardized instruments that an undergraduate or a graduate student in education may elect to use as evidence of qualifications to do college or university work.

Analyses

An independent t-test was used to determine if the mean score on the reading attitude instrument of the teachers of reading was significantly greater than the mean scores of the teachers not teaching reading. Pearson product-moment correlations were computed to determine the relationships between the composite achievement scores, reading attitude scores, ATERS scores, undergraduate GPAs, entering graduate GPAs, and Composite NTE scores. Data for the subjects were then submitted to four stepwise regression analyses for predicting achievement in the course. The first analysis included all 80 subjects who had scores on the reading attitude and the ATERS. The second analysis included the 76 subjects who had these two measures plus undergraduate GPAs. The third analysis included the 59 subjects who had these three measures plus entering graduate GPAs. In the fourth analysis, 32 subjects had scores on all of the measures.

RESULTS

Data from this study indicate that gradute education stuents have a positive attitude toward reading. The mean score for these 80 subjects on Elliott's scale was 100.79 of a possible 150. Only 10 of the 80 subjects had scores below 78, indicating that they had a negative attitude toward reading.

It was hypothesized that the teachers who were currently involved in the teaching of reading would have significantly higher reading attitude scores than the teachers who were not involved in the teaching of reading. This hypothesis was supported ($t = 1.92$, $df = 78$, $p < .05$, one tailed test). The average attitude score for the reading teachers was 104.70, and the average for the teachers not teaching reading was 96.87.

The correlation matrix for the six variables is presented in Table 1. Reading attitude scores were significantly correlated with achievement (.36), ATERS scores (.31), graduate GPAs (.30), and the Composite NTE (.54). Reading attitude scores were not significantly correlated with the undergraduate GPAs (.09).

The composite achievement mean was 110.00 (out of a possible of 132), with a standard deviation of 14.48. Results of correlating the achievement of the students with predictor variables of reading attitude, ATERS, undergraduate GPAs, entering graduate GPAs, and NTE scores are also included in Table 1.

Means and standard deviations for the predictor variables are included in Table 2. The single best predictor of success in educational research, as measured by the two objective examinations, was graduate GPAs (r = .62). Composite NTEs, undergraduate GPAs, the ATERS, and reading attitudes were all significantly related to achievement (rs = .59, .46, .37, and .36, respectively).

Results of the first stepwise regression analysis yielded a significant multiple correlation of .45 when both reading attitude and ATERS scores were used to predict achievement. In the second stepwise regression analysis a significant multiple R of .61 was obtained when undergraduate GPAs, ATERS scores, and reading attitude scores were used to predict achievement. The proportion of variance accounted for by using these three predictors was .37. In the third regression analysis when graduate GPAs were included in the analysis, a significant multiple R of .72 was obtained, and the proportion of variance accounted for by using four predictors was .52. Finally when NTE scores were included in the fourth analysis, a significant multiple R of .77 was obtained, and the proportion of variance accounted for was .59. In all of the stepwise regressions the multiple Rs obtained were significant at the .01 level. Results of the last three stepwise regression analyses are presented in Table 3.

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TABLE 1

Correlation Matrix for Achievement in Educational Research and Five Predictor Variables

	Achievement	Reading Attitude	ATERS	Undergrad GPA	Grad GPA	Composite NTE
Achievement	1.00	.36** (n = 80)	.37** (n = 80)	.46** n = 76)	.62** (n = 59)	.59** (n = 41)
Reading Attitude		1.00	.31** (n = 80)	.09 (n = 76)	.30* (n = 59)	.54** (n = 41)
ATERS			1.00	.11 (n = 76)	.42** (n = 59)	22 (n = 41)
Undergrad GPA				1.00	.31* (n = 59)	.37* (n = 41)
Grad GPA					1.00	.32 (n = 32)
Composite NTE						1.00

*Significant at ..05 level
**Significant at ..01 level

TABLE 2

Means and Standard Deviations of Predictor Variables and Correlations between those Variables and Composite Educational Research Examination Scores

Predictor	n	Mean	Standard Deviation	Correlation
Reading Attitude	80	100.79	18.97	.36*
ATERS	80	190.18	19.36	.37*
Undergrad. GPA	76	2.97	.50	.46*
Grad. GPA	59	3.62	.41	.62*
Composite NTE	41	1211.78	144.90	.59*

*Significant at .01 level

TABLE 3

Summary of Stepwise Regression Analyses for Predicting Achievement in Educational Research

n = 76

Step	Predictor Variable Entered	R	R^2	F
1	Undergraduate GPA	.46	.21	19.64*
2	ATERS	.56	.32	16.90*
3	Reading Attitude	.61	.37	13.99*

*Significant at .01 level

n = 59

Step	Predictor Variable Entered	R	R^2	F
1	Graduate GPA	.62	.38	34.88*
2	Undergraduate GPA	.69	.48	24.82*
3	Reading Attitude	.72	.52	19.59*
4	ATERS	.72	.52	14.58*

*Significant at .01 level

n = 32

Step	Predictor Variable Entered	R	R^2	F
1	NTE	.65	.42	21.81*
2	Graduate GPA	.75	.57	18.91*
3	Reading Attitude	.76	.57	12.54*
4	Undergraduate GPA	.77	.59	9.54*
5	ATERS	.77	.59	7.35*

*Significant at .01 level

REACTION PAPER: "THE RELATIONSHIP OF GRADUATE EDUCATION STUDENTS' ACHIEVEMENT IN EDUCATIONAL RESEARCH TO THEIR READING ATTITUDES TOWARD EDUCATIONAL RESEARCH, GPAs, AND NATIONAL TEACHER EXAMINATIONS"

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Benton and Jerrolds explore the relationship of attitudes toward reading and achievement which, as they state, has been studied in the past with conflicting results. While they do not clearly state the conclusions and implications from their study, the objectives of their study appear to have been accomplished. Furthermore, their study provides adidtional data pertaining to Elliott's instrument, which purports to measure attitudes toward reading among preservice teachers (Elliott, 1983), since it is being used here with a different target group—graduate education students.

Benton and Jerrolds conclude that their graduate education students had a positive attitude toward reading. Mikulecky and Ribovich (1977), however, caution that conclusions about the positive or negative nature of teachers' attitudes cannot be made with any instrument, given a lack of external criteria. Benton and Jerrolds can make no comparisons to scores obtained in Elliott's study (1983) (since Elliott did not publish the mean scores obtained) to demonstrate that the mean obtained here was actually positive or negative. Data should be collected for a variety of groups to permit comparisons and establish criteria.

More information about Benton & Jerrolds' target group is needed. How many are teaching at the elementary or secondary level? Do attitudes vary by teaching level? How did Benton & Jerrolds define "current involvement" with teaching reading? (Actually many authorities say every teacher *should* be involved in teaching reading in some way.) How did they control for prior, but not current, involvement? I'm sure that Benton & Jerrolds would agree that better definitions would clarify the findings.

Achievement is measured by a composite score on course exams rather than by course grade thereby eliminating the problem that occurs when a ordinal scale is used. Interestingly, a significant correlation ($p < .01$) between ATERS and achievement was obtained in this study whereas Benton & Jerrolds report that earlier studies had revealed a non-significant relationship. No interpretations are offered for this finding, however.

A significant relationship ($p < .01$) was also obtained for reading attitude as measured by Elliott's scale and ATERS, even though the two instruments were administered approximately five weeks apart. Perhaps this relationship might have been stronger if the subjects had been tested at the same time with both attitude measures. As it is, it is possible that the attitude toward reading might have changed during the last half of the term as students were given assignments requiring reading. (Weidler & Askov, 1983, reported a change, though non-significant, in reading attitudes during a reading methods course.)

Much is yet to be learned about the relationships between attitude toward reading and achievement among college students. It is my hope that Benton and Jerrolds will continue to pursue this inquiry, so that teacher education programs may benefit from increased knowledge of this area.

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LESS THAN WORDS CAN SAY ABOUT THE CERTIFICATION OF READING TEACHERS

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About the time that proposals for the 1983 American Reading Forum program were due, I was participating in discussions of proposals for the revision of the Wisconsin certification requirements for reading teachers and reading specialists. In fact, being not only a member of a faculty group involved in the training of reading teachers and specialists but also a member of the Department of Public Instruction's Advisory Committee on Certification in reading education, I was participating in more discussions than any sensible person should. I began to wonder whether there was—or whether there should be—more to "certification" than merely listing and, subsequently, checking off courses. And then, in a transcendental leap, I began to ponder the imponderable: What *exactly* is implied by "certification"?

At the same time I was reading an amusing but exasperating book titled *Less Than Words can Say*, by Richard Mitchell (1979), The Underground Grammarian. In the book Mitchell counts the ways that our lives are complicated, confused, and, alas, controlled by words that are used without precision or thought. He argues—to paraphrase the dust jacket—that the schools fail to foster clear language and thought because they teach kids to socialize rather than to read, write and cipher. And he concludes that, lacking "the power of language" the illiterate products of the schools can't manage their lives because they can't think. It took less than a transcendental leap—more of an incidental shuffle—for me to see that certification rules are composed, edited and published in a way that is a fine demonstration of what happens when words are let run amok.

Pondering the Imponderable

Mitchell offers some thoughtful and precise words about certification when he wonders what it would take to provide all the third graders in America with teachers who are correct and precise in their spelling and punctuation:

> The simplest and most drastic way to achieve that result would be to give all the third-grade teachers a test and send away into the Peace Corps in Afghanistan any who can't spell and punctuate. Could we do this? Certainly not. Someone will show that the test is culturally biased against those in whose background there can be shown a distaste for spelling, which is, after all, nothing more than a genteel skill prized mostly among idle ladies of

> the privileged classes, like painting on velvet. The testing of teachers is not encouraged by teachers' organizations. It is their view, anyway, that a teacher's competence is demonstrated by the granting of a certificate" (p. 204).

And then he goes on to argue that nobody seems to know precisely what it is that certificates are granted *for*. The certifiers, the argument goes, are in cahoots with the teacher trainers: "...the certifiers certify whomsoever the teacher-training academies put forth as certifiable" (p. 205). And the teacher-training academies, of course, put forth as certifiable whomsoever they damned well please. Not that we academicians put it so crudely. We offer assurances in terms of excellence, professionalism, skill-mastery and desirable outcomes. But the inescapable outcome is that we put forth as certifiable whomsoever we deem to have met the certification requirements. That, in an ever ascending spiral of circular reason, is whomsoever we damned well please.

How nice it would be to dismiss Mitchell as a goofy grammarian who knows not whereof he speaks. But who among us can deny the awful accuracy of his case? Pondering the impenderable puts us on a circular track that takes us nowhere. The certifiers certify whomsoever the academicians deem certifiable; the academicians deem certifiable whomsoever meets the certifiers' requirements. To be brief, whomsoever is certifiable is certifiable.

Sounds too cynical you say? Perhaps. But remember that I got on this topic because I had suffered more discussions of certification than a sensible, sensitive person should. What *exactly* is implied by "certification"? Not much, it appears. What *should* be? Now that's a matter far beyond the scope of this paper. Careful consideration would be a worthy theme for an entire American Reading Forum conference!

Meanwhile, though, I will try to identify a few issues related to certification in reading education.

Less Than Words Can Say

After many months of deliberations, the Department of Public Instruction's Advisory Committee on reading certification—of wich, I've confessed, I was a member—submitted recommendations. I'll share them with you, not as a model for anything or anybody but as an example of what happens when a committee puts together certification recommendations that are designed to satisfy everybody. (People who are already certified, people who aspire to be certified; the Department of Public Instruction; more than a dozen teacher training academies, each with a different definition of reading, different expectations of reading teachers, different views of what teacher education is all about, and very different personnel and budgetary resources; the school boards; the teacher's unions; the school administrators; and the Legislature. I could also mention parents and students, but the fact is that they got scant attention compared to all the others.)

Two "levels" of certification were recommended: reading *teacher* and reading *specialist*. I'm not sure why; but I think it was because the committee was reluctant to recommend anything very different from the certification rules that were already in force.

The committee's recommendation for the READING TEACHER certificate follows:

> Reading Teacher. Effective July 1, 1972, any person who has a specific assignment to teach reading must hold a Reading Teacher license. Effective July 1, 1983, a regular K-12 license may be issued to an applicant who receives the institutional endorsement for the Reading Teacher license and has completed or possesses:
>
> a. Eligibility to hold a Wisconsin license to teach or completion of an approved teacher education program.
> b. Two years of classroom teaching experience.
> c. A minimum of 18 semester credits aggregated from the following courses, of which a minimum of 12 semester credits must be taken beyond the bachelor's degree, and each of which must carry no less than 2 semester credits:
>
> 1. Developmental reading in the elementary school;
> 2. Developmental reading in the secondary school;
> 3. Diagnostic and instructional techniques for readers with special needs;
> 4. Practice teaching childern with special reading needs including experience at both elementary and secondary levels;
> 5. Learning disabilities;
> 6. One course selected from:
>
> a) Gifted and Talented eduction
> b) Evaluation and measurement
> c) Literature for children or adolescents.

Issues aside for the moment, notice some of the words. The first sentence says "...any person who has a specific assignment to teach reading..." The interpretation is that if your principal assigns you specifically to teach reading, or to teach a reading "course," you gotta be certified. Presumably, if the principal tells you specifically to teach something else and only incidentally to teach reading, no certificate is needed. At least not a reading certificate. Point b says "Two years of classroom teaching experience." That's interpreted to mean experience teaching class-size groups of ordinary elementary school kids or class-size groups of ordinary high school kids in specific content classes. Experience teaching a few kids with learning problems, language problems, behavior problems or whatever probably wouldn't do; on the other hand, it might. Don't ask me why. Less than words can say.

Notice the odd wording where it says "...18 semester credits aggregated from the following..." I suggested those words! The reason was that the committee wanted to say that (a) a course in each of the areas listed is required, (b) it's okay for the training institution to say whether each course carries two, three or four credits, but (c) each course must carry at least two credits, (d) some undergraduate credits can count toward the certification requirement, but not more than six credits, and (e) a minimum of 18 credits, of which at least 12 must be taken beyond the bachelor's degree, is required. The reason the committee wanted to say all that was because we represented a variety of interest groups, and we were all trying to protect something. I suppose you won't be surprised to learn that the wording—inspired though it was—failed. When the Department of Public Instruction issued its version of those words, they went like this:

> A minimum of 24 semester credits, with a minimum of 12 of these credits taken beyond the bachelor's degree including at least 2 semester credits in each of the following:
> (a) Developmental reading in the elementary

school
(b) Developmental reading in the secondary school
(c) diagnostic techniques for readers with special needs
(d) Instructional techniques for readers with special needs
(e) Practicum in reading at both elementary and secondary levels
(f) Language development
(g) Learning disabilities
(h) Gifted and talented education
(i) Evaluation and measurement
(j) Literature for children or adolescents.

The words are similar, but now they say something very different; flexibility and local options are gone. One message is clear: The one the Department is sending to the advisory committee.

Oh yes...we were going to talk about issues. Buried under all those words there are some. (1) Is it important for a reading teacher, who is likely to teach reading at either the secondary or the elementary level, to have a developmental course at both levels? (2) Should there be discrete courses in "diagnostic" and in "instructional" techniques, as the Department's version demands? Or is it better to demonstrate the integration of diagnosis and instruction in the context of a single course? (3) Is a course in gifted and talented education a defensible required course for reading teachers? Is a course in learning disabilities? (4) Should reading teachers have a discrete course on measurement and evaluation, or should the essential principles be taught within the context of the developmental and remedial courses? (5) Is it sensible to require practicum experience at both the elementary and the secondary level? Are the training institutions able to adequately supervise two practical for each student? Should they be? Is there really any difference? Should there be?

But of course most of those issues are specific to the Wisconsin requirements. They don't even address deeper, more important matters. Like, Who decides that a practicum experience has been successful? How? Or, more basic, Should the successful completion of a practicum expereince be the key requirement for certification? If so, How can/should "success" be demonstrated? If not, What then? Should there be temporary or provisional certification, with validation required periodically by demonstration of successful teaching? If so, What demonstrates "successful" teaching? Who decides? How often?

Specific or basic, the "issues" are almost never addressed either by the certifying agency or by the teacher training academies. We're all too busy with political matters, most of them too mundane even to be called "issues." The Department wants to keep its public happy. And the training institutions, it seems, want to keep on doing whatever it is they have always done.

At the risk of belaboring the point, these are the advisory committee's recommendations for the READING SPECIALIST certificate:

> Reading Specialist. Effective July 1, 1972, any person who works with reading teachers, classroom teachers, and others as a resource teacher to improve competency and interest in the teaching of reading to implement Sec. 118.015, and to prevent reading disabilities must hold a reading specialist license. Effective July 1, 1983, a regular K-12 license may be issued to an applicant who has the institutional endorsement for the reading specialist license, and has completed or possesses:
> a. Eligibility to hold a Wisconsin reading teacher license.
> b. A master's degree with a major emphasis in reading or at least a 30 semester credit program equivalent to the master's degree.
> c. A minimum of 15 graduate semester credits aggregated from the following courses each of which must carry no less than 2 semester credits:
> 1) Guiding and directing the K-12 reading program;
> 2) Field experience in reading program development, implementation, and evaluations;
> 3) Research related to reading;
> 4) Supervision of instruction;
> 5) Content area reading for the reading specialist.

Again, notice the words. Point b, about the master's degree or thirty credits, is directed solely at concerns of the training institutions. It has nothing whatever to do withlegitimate certification concerns. The advisory committee tried to drop the master's degree option as irrelevant, but the Department was beset by protests from certified reading specialists who claimed that their own degrees would be "cheapened" if that were done. I'm not sure, but I think what they really meant was that somehow the degree requirement was tied in with salary schedules and job security. I am sure that the uproar had nothing whatever to do with training, competence and successful teaching.

The committee used the words in point c.5, "Content area reading for the reading specialist," to make it clear that the intent was not merely to have the reading specialiss take another secondary reading course but to have them takea course dealing explicitly with content area reading at a sophisticated level. Whatever that means. We put the content area equirement in in the first place to pacify the committee memiers who seem to believe that there is content-area and conten-free reading. I'm not sure why we don't need a special couse in content-free reading.

Less Than Words Can Say

The Department came back with its own verion of the advisory committee's recommendation:

> PI 3.07(7)(a)3. 317 Reading Specialist. Any person who directs K-12 reading program, works with reading teachers, classroom teaches, administrators, and others as a resource teacher must hold a reading specialist license.
> a. Effective July 1, 1983, a regular K-12 license shall be issued to an applicant who has the institutioal endorsement for the reading specialist license, and has completed or possesses:
> 1) Eligibility to hold a Wisconsin reading teacher license.
> 2) Three years of successful experience as a regular classroom teacher.
> 3) A master's degree with a major emphasis in reading or a 30 semester credit program equivalent to the master's degree including minimum of 18 graduate semester credits in the following areas with at least 2 semester credits in each:

a) Guiding and directing the K-12 reading program
b) Field experience in K-12 reading programs
c) Research related to reading
d) Supervision of instruction
e) Content area reading for the reading specialist
f) School administration.

Notice that now *three* years of "regular classroom" teaching experience is required. Two years were enough for a mere reading teacher; but three, never mind whether it was successful, are required of reading specialists. And the experience must all be in the "regular classroom." The teacher who taught third grade two years and then became a reading teacher and taught "reading" for one or more years is out of luck. Back to the "regular" classroom for him/her before a specialist license can be issued.

Notice, too, that the Department threw in a course in "school administration." Two credits seem about right for the topic; but I'm not so sure that the requirement is sensible for a reading specialist. Unless, of course, the reading specialist is presumed to be a lacky of the administration. Then knowing some of the tricks might be worthwhile.

But, enough. I continue to overmake my point. I'll end with a simple plea: Let's try to give at least as much thought to the certification of reading teachers as we give to other things that are important to us. Like getting promoted, or earning tenure. And, as professionals in reading education, let's take a leadership role in deciding what certification should entail. Like the American Medical Association, or the American Bar Association, or even the American Psychological Association.

Do I really think it's important? More than words can say.

THE GOVERNANCE OF READING EDUCATION: A POSITION PAPER

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Reading education programs have been subjected to the same scrutiny as higher education has generally. The numerous recent national reports characterizing the current status of education (National Commission on Excellence in Education, Carnegie Foundation, Paideia proposal, etc.) continue to raise questions about the quality of professional training in education. Public uneasiness about education frequently results in questions of money and control—areas of higher education activity in which faculty often have limited participation.

If reading education is to remain strong and relevant through "the hard times," faculty need to develop perspectives about the profession which include knowledge beyond program content and theoretical research. Bailey (1980, p. ix-x) says,

> "As budgets (higher education) get tighter, as enrollments decline, as new claims for social justice (by minorities, women, the handicapped, and the elderly) press relentlessly on administrators, faculty, and staff, neurotic manifestations of fears can only exacerbate interpersonal cussedness...In such circumstances, the civilized treatment of others does not imply trying to please everyone. It means building trust by sharing dilemmas and allowing "multiple" but not "infinite" inputs to decisions."

Viable reading education programs require faculty who not only know the field but also reamin sensitive to the many forces which control program survival.

A search of the literature and a perusal of policy publications from the International Reading Association yield little of value to help the reading educator make decisions about programs. The field study of *The Torch Lighters* in 1961 and the follow-up study, *The Torch Lighters Revisited* (Morrison & Austin, 1977) shed light on the status of reading education in teacher preparatory programs. The latter serves as a useful guide for curriculum implementation and development. No study or issues paper attempts to conduct a policy analysis of the administration of reading education. So often practitioners exclaim that the success of a school reading program rests with the principal, that he or she sets the tone for the curriculum. In a very real sense a reading education program functions well only if the administration clearly articulates the management process, responds intelligently to market trends, and includes faculty input in decision-making. Determining program quality, balance, and integrity requires an informed and involved faculty.

This discussion identifies some issues to be addressed by reading educators. Stated in the interrogative form, the issues are:

(1) How are curriculum issues controlled?
(2) Who controls the management aspects of reading education?
(3) How are resources allocated, and what part do reading faculty play in budget expenditures?
(4) How do other teacher education programs relate to reading education?
(5) What external influences control reading education?
(6) How is reading education responding to the changing market?

These questions suggest that in addition to academic interests, reading educators should be conscious of those factors which delineate the basis for instructional and professional support. At the very least, faculty need an understanding of program administration which spans departmental, school, institutional and extra-institutional perspectives. In times of economic restrictions, decisions about programs are sometimes made quickly and arbitrarily. Faculty who are aware of the issues surrounding such decisions can raise crucial questions and give reasoned input to influence the choices made.

ISSUES OF CONTROL OVER CURRICULUM

Several problems crucial to the operation of reading education programs appear to be surfacing in institutions of higher education. The collapsing of administrative units and the reduction of numbers of instructional personel have often imposed upon programs changes which are generated externally. What is taught in a reading methods course may conceivably be determined by a curriculum committee largely composed of non-language arts instructors. Course scheduling which provides for optimum teaching experiences may not be feasible because of enrollment considerations. Clinic operation costs are being viewed by many institutions as too costly to continue.

Threats to program control are at times unavoidable; yet much can be done by reading faculty if they are willing to assume responsibility for understanding the problems and are willing to participate in the processes of self-evaluation and

recommendation. These activities take time from study, research, and writing, but they may well be a priority for this decade.

Administrative Issues

Faculty in higher education are often reluctant to spend time doing the tedious jobs of course scheduling and participating on search and recruitment committees. These efforts steal precious hours from more crucial teaching and research projects. Administrative tasks, however, play critical roles in program development. Course time scheduling, enrollment ratios, and equity in teaching loads influence program quality and faculty morale. Hiring decisions demand direct and precise input from faculty to assure program growth. Conversely, faculty can also best communicate priorities when reduction in personnel becomes necessary. When teachers accept a role in the management of higher education, programs have the best chance for continuation.

Resource Allocations

Any basic management text describes the importance of budgeting as a tool for planning and control. Budgeting in higher education varies from that of industry because the goals, products, and services are frequently abstract in nature. Reading educators may not be schooled in program budgeting; however, they have a right to know the plan for resource allocation and the procedures for making budget requests. An accounting of expenditures during a fiscal year can show the extent of funding for the reading program as compared with similar programs within a department or division. The old saying, "the squeaky wheel gets the grease," seems to have a certain validity in higher education resource allocations.

Reading as a Part of the Broader Teacher Education Program

Both graduate and undergraduate reading courses typically function as a part of more inclusive units of teacher education. Even separate graduate degree programs in reading often service programs in related areas, such as special education, adult education, or school psychology. Undergraduate reading courses are clustered with methods courses in other content areas to form the professional experience for a number of degree programs. When reading faculty plan jointly with faculty in other areas, they grasp more accurately course content needs. Logistical considerations for scheduling and practicum placement receive greater understanding and endorsement. Communication among faculty about the interrelationship of curses creates a feeling of unity and usually adds to the continuity within the total program.

External Influences on Reading Curriculum

Reading education, like other aspects of teacher education, is subject to pressures from outside the ivory tower. National accreditation (NCATE) sets standards for faculty qualifications, program content and clinical experience. State departments and advisory councils delineate certification guidelines which affect course and program requirements. Policies of school systems influence the nature of field activities, the materials used in courses, the generation of student enrollment and, sometimes, the very direction of a university program. These outside pressures are not easily ignored. They have a direct bearing on the success of a program, but must be balanced against a commitment to professional quality.

Response to the Changing Market in Reading Education

A change in program direction requires a careful long-term prediction of market trends. Impersonal as it sounds, it is a positive approach to revitalization and growth. Typically, questions to be answered through market analysis might include the following:

(1) It is the focus of the reading program consistent with the need for reading professionals in the schools and agencies from which we draw clientele?
(2) Have we engaged in needs-assessment activities with schools and agencies to determine the market for staff development in reading.
(3) Are we involved in systematic program and product evaluation to assess the quality of our programs as judged by former students and their employers?
(4) Are alternative course delivery systems used to acommodate clientele?
(5) Has long-range program scheduling taken into consideration increasing or decreasing markets for special interests within reading?

Educational programs cannot and should not be dramtically altered as is sometimes done in the business world; however, a strong program is one that is flexible enough to respond to special needs while maintaining a stable framework. Recent interest in computer resources in reading, integrating reading and writing instruction, and developing the competencies of non-language arts teachers to teach reading in content areas are examples of course options which are useful to both specialists and non-specialists. They respond to a broad constituency and offset reduced enrollments in other program courses.

Summary

The issues raised in this paper are not intended to add to the burdens of reading educators. They are presented to create an appreciation for the range of concerns that need to be addressed by the profession. The Carnegie Council on Higher Education recommends introspective and strategic planning as the guiding principles in higher education for the next twenty years. I submit that the issues identified in this paper combined with curriculum content analysis form the basis for review, planning, and renewal in reading education.

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PLANS OF ACTION — TOOLS FOR INITIATING CHANGE IN SCHOOL READING PROGRAMS

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Educational research has played an important role in the development of American eduction. It has been noted often, however, that there is a significant gap between current research results and knowledge and what actually happens in schools and classrooms. It has been suggested that practices lag at least 30 to 50 years behind the current state of knowledge. While there are no simple explanations as to the reason or reasons for the differences between current research knowledge and classroom practices, it is possible to contend that there is no systematic or focused effort on promoting change in classrooms. One author nots "I have lost much of the faith I once had in the consequences of asking only the professional educational investigator to study the schools and to recommend what they should do." Thus, he testifies to the idea that the professional educational researcher can not resolve some of the problems of the schools primarily because he is not a part of the culture of the schools and, furthermore, he (she) is not responsible for making any of the changes that might result from in-school research findings. Because we concurred with this belief, as well as with the idea that the person who identifies and evaluates problem areas in school reading programs is the individual best suited to make any subsequent changes to improve such programs, this study was undertaken. It is a study that spans seven years. It involves 56 students and their plans of action to improve school reading programs. The purpose of the study were (1) to determine the possibility of using "action research and evaluation" procedures to improve on-going school reading programs, (2) to identify the kinds of goals and objectives reading teachers and specialists perceive as important for improving school reading programs and (3) to identify the kinds of obstacles which prevent improvement in school reading programs as identified by graduates from James Madison's University master's degree program in reading.

Procedures for the Study

The procedures followed in this study entailed two phases. Phase I involved the reading teacher-specialists in a series of preliminary activities as partial preparation for writing a "Plan of Action" or Phase II of the study. A Plan of Action is a short and long term strategy designed to institute change in school reading programs. The strategy involves making both detailed and general plans for impoving the effectiveness of on-going school reading programs. The broad dimensions of school reading programs includes anything which can be classified in the following general descriptive categories: administrative leadership, staff development, teaching-learning methods, instructional materials and equipment, space and facility, student selection, in-service education, philosophy, goals and objectives, coordination of school reading programs, school and community relations, parent involvement, school-public relations, reading-language curriculum, diagnostic prescriptive activities, and planning time. While this description of the dimensions of school reading programs might appear to be comprehensive, it is one which has some credibility since it evolved out of reading program descriptions and the Plans of Action developed by the participants in the study who were graduate students in the master's degree program at James Madison University.

Before writing their plan of action, however, each teacher-specialist was required to undertake three preliminary activities as preparatory steps for writing the "Plan of Action." The students had to first write a description of their school and classroom reading program. Once the program description was completed the students were required to evaluate their on-going program using a modified version of the discrepancy evaluation model (Provost, 1971). This model first defined in 1971 is a comparative model in which the evaluator, the teacher-specialist in this instance, uses a comparative approach to evaluation. A comparison between the on-going school reading program and what might be termed an "ideal reading program." As part of the discrepancy evaluation procedures in which the students made comparisons between their programs and "the ideal program" they were required to identify and describe any weaknesses or problem areas in their on-going programs. The evaluation was to consider any or all aspects of their on-going programs.

Once the evaluation report was written and submitted to the instructor then Phase II of the procedures was initiated. In Phase II, the teacher-specialists were required to develop a "Plan of Action." The plan of action is a general, yet specific plan for making changes in the on-going school reading program. The plan was to be based on the results of the evaluation which had been previously conducted using the discrepancy evaluation model. The plan was to focus on the problems and weaknesses in the schools reading programs and include a series of specific objectives, written in performance language. The objectives were to be concerned with strengthening and/or eliminating the weaknesses identified during the evaluation of the program. Once a 'Plan of Action" was graded and returned to the students, they were to take the plan and implement it during the school year which immediately followed the semester. The implementation was to follow the prescribed plan of action including the specific objectives and procedures outlined in the appoved plan.

About one year after the plan was scheduled to be implemented, a follow-up study of each plan was conducted. The follow-up study was conducted by individuals using interview techniques. Each interviewer had a copy of the individual's plan of action while conducting the interviews. The interviews were conducted either on a face-to-face basis or by telephone. While the interview was conducted, the interviewer asked the author of the plan specific questions concerning the attainment of each of the objectives stated in their plan. The interviewer recorded the detailed results of each interview as well as the reported reasons for success or failure in attaining the objectives.

The Model Plan of Action

The model plan is included in the report so that the reader can have a very clear idea of what was and could have been included in a typical plan of action. The following plan was developed for a large middle school (pop. 750 students in grades 6-8) in rural Rockingham County, Virginia. A reading specialist with a broad background of experience and training in remedial instruction initiated the plan during the summer months prior to the first year of her position on the middle school staff.

A preliminary stage involving the evaluation of the physical and program conditions of the existing reading program was followed by four stages which evolved into the Plan of Action. The four stages included: (1) Identifying the Problems, (2) For-

mulating the Plan, (3) Implementing the Plan, (4) Reviewing annually for long-term effect.

An inventory revealed that the classroom was sparsely *furnished* and inadequately *equipped* to function successfully as a remedial reading classroom. Furnishings included a teacher's desk, 2 large rectangular tables, 1 file cabinet, 2 bookshelves and 14 undersized student chairs. Equipment included: 1 small blackboard, 1 small bulletin board, and 2 typewriters, one of which was ancient. The needs were extensive.

The assortment of *materials* in the classroom varied in appropriateness and quality; however, an ample materials budget was provided so it was deemed unnecessary for this particular item to appear on the Plan of Action.

The oversized classroom, a former home economics room, was very appropriate for remedial reading purposes in that it offered potential for: (1) a U-shaped large group instructional area, (2) a small group instructional area, (3) numerous centers on the outer perimeters, (4) enough wall space to accommodate several wired study carrels and, (5) adequate space to allow for verbal and non-verbal activities to be successfully conducted simultaneously. A separated kitchen area offered numerous cupboards for storage and ample counters for work space. In addition, it was fully equipped suggesting possibilities of skill-related motivational cooking lessons.

The location of the classroom had both advantages and disadvantages. It was conveniently located near the main office and guidance office allowing easy access to records, administrators, and the telephone. However, a large sliding door between the classroom and the cafeteria was a major disadvantage. Not only was the noise potential during lunchtimes a problem, but indications were that a portion of the staff took a short cut through the classroom to the cafeteria each day. To make matters worse, the cafeteria workers came to the laundry nook in the classroom and washed tea towels during afternoon classes! The situation was not conductive to good learning.

Testing

Diagnostic reading testing was non-existent. For Child Study Committee purposes, the Wide Range Achievement Test (WRAT) Word Recognition Subtest was administered by the school psychologist and the Peabody Individual Achievement Test (PIAT) was administered by the Learning Disabilities

PLAN OF ACTION

IDENTIFIED PROBLEMS — Stage I	FORMULATION OF PLAN — STAGE II
Equipment and Furnishings Needs Tape recorder, 4 tape players, language master, several electrical outlets, 4 wired study carrels, filmstrip viewer, overhead projector, 3 typewriters, large bulletin board, large blackboard, 4 rectangular tables, 2 round tables, area rug beanbag chairs, and 20 standard size chairs.	**Equipment and Furnishings** 1) Request needed items in writing. 2) Provide rationale for needs.* 3) Suggest sources of funding for needs *see excerpts of written request (Appendix)
Classroom 1) Location—the classrom was noisy for 1½ periods a day due to the adjoining cafeteria. 2) Sliding door—elevated noise level and served as a pathway for some staff members which interrupted classes. 3) Laundry—classes disrupted by cafeteria workers doing laundry.	**Classroom** 1) Location—Adjust teaching times to periods when cafeteria is not in use. Schedule planning and lunch during noisy times. 2) Sliding Door—Arrange to have door closed and area lined with furnishings which muffle noise. Request replacement of doorway with cinderblock wall as soon as possible. 3) Laundry—Request removal.
Testing 1) Diagnostic testing was not being conducted. 2) Inappropriate "reading" tests were being administered by unqualified personnel. 3) Level mastery testing was not being conducted and all students, regardless of proficiency, were "lockstepped" through the basal series. This was especially punative to remediated students who were kept in below grade level texts.	**Testing** 1) Diagnostic—Present rationale for individual diagnostic testing to principal. Request one period per day for diagnostic testing. 2) Level mastery—Present rationale for level mastery testing to principal. Emphasize importance of meeting instructional levels along with benefits in terms of improved public relations. Request time to provide faculty inservice related to importance of level mastery testing.
Reading Program Coordination 1) The program lacked coordination and supervision from trained reading personnel. 2) Teachers were teaching two or three different reading groups within a single class period. 3) Remediated students did not function successfully when they returned to the regular instructional program.	**Reading Program Coordination** 1) Request time to provide inservice to administrators and language arts staff to explore ways of limiting instructional load to one basal level per teacher per period. 2) "Sell" language arts teachers on the services of a reading specialist. 3) Glean information from teachers for monitoring remediated students who return to regular program.
Content Reading Program An organized, functional, and supervised content reading program needed to be established within the school.	**Content Reading Program** Request the following: 1) Time to provide inservice to individual departments on content reading. 2) That reading specialist be included in departmental meetings as a resource person. 3) That reading specialist be given opportunity to do demonstrating teaching of various techniques which content teachers could be using.

Specialist, neither of whom had appreciable training in reading diagnosis.

Mastery testing for reading levels was also non-existent. All children were expected to complete every level of the basal in sequence (lockstepping).

Reading Program Coordination

The program was not coordinated. Each language arts teacher was assigned a number of students who were initially "tracked" to one or two basal levels. Some teachers were unfortunate enough to get students from three different levels. Each of the ten sixth grade and two seventh grade language arts teachers was expected to meet the reading needs of the students assigned to him/her. Consequently, many of the teachers became responsible for providing instruction to as many as three different basal levels during a single class period. Obviously, the effectiveness of instruction under such conditions was questionable, at best.

A contributing factor to the lack of reading coordination was that there was no supervision of language arts teachers by a trained reading supervisor. In fact, the school sytem did not employ reading supervisors.

A related problem, reflecting the lack of coordination of the reading program was that students who were considered "remediated" had difficulty making the transition from the remedial reading program to the regular program. They were most often unsuccessful.

Content Reading Program

In spite of a school system requirement that all teachers at the middle and high school level take a course in content area reading, a follow-up program had not been developed. Consequently, there was no oganized content reading program at the school. The reading specialist acted as a resource person, mainly by loaning materials, to an isolated few interested language arts teachers; but she did not interact with content teachers, nor act as a resource person or consultant.

PLAN OF ACTION

IDENTIFIED PROBLEMS — Stage III	ANNUAL REVIEW IV
1) Prinicipal asked faculty to consider the reading program; committee funded purchase of all needed equipment. 2) Librarian supplied study carrels. 3) Furnishings supplied form stock or purchased. Beanbag chairs and rug solicited as donations from local businesses.	**Equipment and Furnishings** As a result of the successful use of equipment in the reading room, several teachers requested and obtained some new items. Study carrels are used by a number of teachers for individual distractible students. A second language master is being used by some content teachers and the special teachers.
Classroom 1) Location—planned schedule approved. 2) Sliding Door—File cabinets and bookshelves moved in front of doorway.* 3) Laundry—not removed until second year following regular, persistent requests. Teacher compromised by volunteering to start machine at end of day.*	**Classroom** The second and third objectives were most difficult to maintain because the janitor liked the doorway clear for cleaning and the cafeteria ladies liked a short cut to the laundry. Note that non-instructional personnel had influence over goals designed to improve an instructional program.
Testing 1) Diagnostic—Testing period scheduled daily; specialist assumed role of diagnostician for Child Study referrals. Mastery—Inservice conducted on need for testing to allow capable students to skip levels; characteristics of potential students described. Referrals dribbled in at first, then mushroomed as students moved to appropriate levels and functioned successfully.	**Testing** 1) Diagnostic—a diagnostic reading batter is administered to each Child Study referral who has reading problems. A remedial plan is followed by written suggestions for classroom teachers for compensatory measures. Mastery—Approximately 100 stuents each year have skipped 1-4 grade levels in reading. Less than 1% have been unsuccessful. Each student is recognized for outstanding achievement at an awards assembly.
Reading Program Coordination 1) Inservice provided; many student schedules altered to reduce number of groups being taught each period. 2) Services of specialist described at inservice meeting and followed by personal contact; requests for assistance began. 3) Interaction with teachers regarding remediated students yielded valuable information pertaining to program weaknesses.	**Reading Program Coordination** Inservice sessions revealed that all components of basal were not being used effectively at middle and feeder schools. More inservice followed to promote maximum effectiveness with basal system. Specialist's workdays are consumed by language arts teachers' requests for assistance with scheduling, group remediation, and individual student's reading problems.
Content Reading Program 1) Inservice provided for all departments on individual basis; many content reading sources made available; demonstration teaching of a number of "reading/thinking" skills. 2) Remedial students report cards checked each grading period for concentrations of poor grades—this gives reading specialist a "foot in the door" to offer services.	**Content Reading Program** Content teachers requested that a content reading course be provided at the middle school last year. Specialist assisted individual teachers with projects. Teachers regularly ask for help with students with reading disabilities. Active participation by the entire staff in a Newspaper in Education program reflects a new respect for reading among content teachers.

The Analysis of the Plans of Action

This segment of the report will deal with analyzing 30 of the 56 Plans of Action which will include (1) classifying the objectives in each of the Plans of Action into general categories relating to school reading program development (2) computing the number and percentage of objectives which were successfully attained through the use of the Plans of action, (3) noting the kinds of objectives which were successfully attained and the kinds not successfully attained in the plans, and (4) reporting the results of a second follow-up study conducted through the use of a questionnaire, the purpose of the questionnaire being to determine the long-term effects of the "Plans of Action" on school reading programs.

The first part of the report is a summary both in tabular form and a narrative description of the different goals and objectives listed by the reading teacher-specialist in their plans. The goals and objectives are listed in terms of their (a) identified need by the thirty teacher-specialists, (b) those goals and objectives which were accomplished and (c) those goals and objectives which were not accomplished. In this section of the report the reader will be able to note that the reading teacher-specialist often identified very similar and, in some cases, identical needs in terms of their goals and objectives (See Table 1). There are a number of possible explanations for this. It is possible the research literature pertaining to school reading programs reviewed by the reading teacher-specialists in the program were similar over the seven-year period. It is also possible that the emphasis placed on characteristics of successful school reading programs during instructional lectures and class discussions focused on similar aspects of school reading programs. It is also possible that either the textbook (i.e. Smith, Otto and Hansen, 1978) follow-up study activities and independent evaluations conducted by the students on their classroom and school reading programs lead to similar findings resulting in similar goals and objectives. In Table 1, the reader will note, in terms of frequency of appearance, and in the descending order of need, the goals and objectives identified by the reading teacher-specialist, as well as the number of times the specific goal and objectives were either attained or not attained. Eighty percent or more of the authors of the Plans of Action identified the following four areas as needs (1) in-service education for classroom teachers, (2) the formation of either school wide and/or a district wide Reading Committee, (3) expansion of diagnostic procedures including additional tests and testing time, and (4) staff development including in-service training for principals, supervisors and higher level administrators. More than half the reading teacher-specialists identified the following three objectives as needs in their school districts: (1) program coordination between special service classrooms and the regular classroom, (2) use of instructional materials, and (3) expansion in the range of teaching strategies used in the classroom. In descending order of frequency, but mentioned in a third or more of the Plans of Action analyzed were the following: (1) parent involvement (initiating or expanding their current effort), (2) program evaluation—(expanding evalution beyond the use of standardized tests results and analysis), (3) content reading—(i.e., introducing strategies for teaching reading in the content areas), (4) specialist role—(i.e., expanding the specialist role so that their knowledge and newly acquired skills could be used more effectively in the school program, and (5) curriculum changes (i.e., expanding the curriculum to include a wider range of materials and instructional objectives including creative dramatics and reader's theatre). The remaining goals and objectives in descending order of frequency are listed in Table 1. It should be noted that in at least two instances (i.e., independent reading and student selection) when the objectives were first identified as a need and there was some follow through, the reading teacher-specialist were able to attain their objectives 100 percent of the time. It seems possible to conclude then from this observation that the authors of Plans of Action were astute evaluators of at least one segment of their school's reading program.

A third part of the report examines individual plans in terms of the percentage of goals and objectives accomplished during the intial year of the plan's implementation—the follow-up study year. For each of the plans a percentage is listed and the number of participants reaching the percentage is noted. As noted in Table 2, six reading teacher-specialists were able to accomplish all their goals and objectives during the follow-up year. Three were able to attain 86 percent of their goals and objectives, two 80 percent and one each were able to attain 77 percent and 70 percent of their objectives respectively. Of the 30 individuals and plans studied, eighteen (18) or 60 percent were able to accomplish 50 percent or more of their goals and objectives. Only 12 or 40 percent attained less than 50 percent of their goals and objectives and 6 of these attained between 33 and 42 percent of their objectives. The remaining 6 or 20 percent were the only participants to attain 25 percent or less of their goals and objectives.

The kinds of goals and objectives which were attained most often were those that the reading teacher-specialist could do without input from others or that required additional staff time or allotment of funds. Examples of these objectives were parent involvement, program coordination (i.e., between classroom and remedial room), use of materials (i.e., locate and organize appropriate materials), in-service education or staff development (i.e., but only when conducted by the in-school reading specialist), and encouraging independent reading (i.e., sustained silent reading). The goals and objectives which were not attained or accomplished were those activities which requird additional time, additional staff or an increase in the allotment of funds. An example of these objectives were those which focused on diagnostic testing procedures. In most instances no new diagnostic tests were made available nor were the reading teacher-specialist given any more time to perform individual diagnostic work-ups. A second example of objectives which were not attained were those which required administrative leadership. This entailed both the allotment of funds and staff time. A prime example of this is the failure to form either a school or school district reading committee. Of the 23 reading teacher-specialists who identified this as a need and objective only 10 were able to accomplish it. These findings relative to the goals and objectives accomplished or not accomplished appear to give a very clear indication that many intensively trained reading teacher-specialists were not being given the opportunities to use the kind of expertise and knowledge they had acquired and were prepared to use as a result of the advanced training received in their graduate programs.

TABLE 1
Goals and Objectives

Type	Identified Need	Attained Yes	Attained No
1. In-service education	26	12	14
2. Reading Committee	23	10	13
3. Diagnostic Procedures	20	8	12
4. Staff Development	20	13	7
5. Program Coordination	16	14	2
6. Use of Instructional Materials	16	15	1
7. Teaching Strategies	15	11	4
8. Parent Involvement	14	11	3
9. Program Evaluation	13	6	7
10. Content Reading	11	6	5
11. Specialist Role	11	6	5
12. Curriculum Changes	10	6	4
13. Independent Reading	9	9	0
14. Individualizing Instruction	8	7	1
15. Community Involvement	7	5	2
16. Student Selection	6	6	0
17. Goals and Objectives	6	5	1
18. Attitude Changes (pupils and staff)	6	5	1

TABLE 2
Objectives Attained

Percent Attained	N-Number Attaining a Percentage
1. 100	6
2. 86	3
3. 80	2
4. 77	1
5. 70	1
6. 66	2
7. 56	2
8. 50	1
9. 42	3
10. 40	1
11. 33	2
12. 25	1
13. 23	1
14. 16	2
15. 14	2
	Total N = 30

Mean Percentage = 57 percent
Range is 14 percent to 100 percent

A final part of the report deals with a questionnaire sent to a sample of participants in the study in the Fall of 1983. The purpose of the questionnaire was to ascertain the long-term effect of the plans of action on school reading programs as well as to identify factors which either enabled the reading teacher specialists to make changes in school reading programs or prevented them from making such changes. The questionnaire was sent to a random sample of 15 of the 30 authors of the plans of action. Thirteen or 86% of the 15 authors sampled returned the questionnaire. However, not all of the respondents answered all eight questions on the questionnaire. For example, only 12 of the 13 respondents answered the first question. This question, "Did the plan of action help you make changes in your school's reading program?" was answered by 12 of the 13 respondents. Eight of the 12, or approximately 67%, indicated that the plan of action did help them make changes. The part of the plan of action which was easiest to change, which was the focus of the second question, was answered by 12 respondents. They indicated that their own goals and objectives were easiest to change (i.e., those which were under their control). These included such things as goals for their students, changing physical setting, and coordinating activities with the feeder schools. One person indicted that it was easiest to organize a reading committee. In response to the third question which dealt with the part of the plan which was the most difficult to change, the answers included the following responses: (a) the administrators' attitudes, (b) getting teachers to follow through on any decisions relating to reading program activities, (c) implementing a content area reading program, (d) getting time and resources to acquire and/or organize materials and equipment, and (e) making any curriculum changes espcially any changes associated with federal programs and federal regulations. Question 4, "What part of the plan of action was impossible to change?" was answered by 11 of the 15 respondents. Some wrote in multiple responses to this question. The following items, according to the reading teacher-specialists, were impossible to change: (a) class size (5 responses), (b) principals' involvement with the program (5 responses), (c) content area reading activities (6 responses), (d) administrators' attitude (3 responses), (e) tests and testing procedures (3 responses) and two respondents indicated that nothing was impossible to change. In response to question 5 which was, "As reading specialist, would you recommend that a plan of action be organized at the end of each year for the following year?", 12 of the 13 responded in the affirmative. The only specialist who responded "No" stated that she runs a tutorial program on a strictly one-to-one basis and as a result, a plan of action was not necessary. The responses to question 5 are fascinating especially in light of question 8 which was, "Have you organized a plan of action or prepared a plan of action (either formally or informally) in any of the years since you completed your Master's degree. Even though 9 of the 13 respondents answered yes to this question, only 3 of the respondents indicated that they prepared a plan of action for more than 1 year and only one respondent indicated that she did it every year. Six of the 9 respondents indicated that they did it for only one year. It is important to note, however, that 3 of those 6 had only completed the Master's program in the prior two years. Consequently, they had had an opportunity to write a plan of action for only one year. It seems that even though most of the reading teacher-specialists recommend (responses to question 5) the use of a plan of action each year, less than half actually used a plan of action on an annual basis.

The responses to question 7 in the questionnaire (i.e., Which of the following factors, would enable you to have a more effective reading program? Please number the following six items in order of priority.) required the respondents to prioritize the following items (a) central administrative support, (b) support of the school's principal, (c) more time to diagnose reading problems, (d) more time to plan an effective remedial program,

(e) access to more instructional materials, and (f) more time to coordinate the reading program with the classroom teacher. There were 11 responses to this question. The factor which was given a rank of number one most often was support of the school's principal. This suggests that the single most important factor, as viewed by the reading teacher-specialist, which would enable them to have a more effective reading program was the school's principal. Three other factors which had about equal numerical value when all eleven rankings of the reading-teacher specialists were compiled were (1) more time to coordinate the reading program with the classroom teacher, (2) more time to diagnose reading problems, and (3) more time to plan an effective remedial program. The two factors which received the lowest rankings overall were (1) central administrative support and (2) access to more instructional materials. From these results, it appears the most important factors which enable the reading-teacher specialist to have more effective reading programs were (1) support of the school's principal and time—time to coordinate the reading program—time to diagnose reading problems and—time to plan an effective remedial program.

Summary and Conclusions

In reviewing the results of this report, it is possible to draw some conclusions relative to planning changes in school reading programs. It is very apparent that Plans of Action are a very effective way to promote change in school reading programs. Six teacher-specialists were able to effect change in 100% of the objectives they identified. Another seven teacher-specialists were able to effect change in more than 70% of their objectives. The average percentage of objectives attained was 57%. This seems to be a tremendous achievement considering these were attained during the first year of the Plan's implementation.

A second conclusion drawn from the results and analysis of the plans was that reading teacher-specialists have an in-depth understanding of the "nature" of a comprehensive reading program. This, of ocurse, became apparent both from the analysis of their Plans of Action and their original program descriptions. The range, quality, and clarity of their goals and objectives in their Plans of Action reflected an understanding of the broad range of activities, strategies, and other elements which contribute to a totally effective, sound and developing reading program.

Another conclusion apparent from this analysis is that there are a number of factors which are obstacles to developing effective reading programs. However, the obstacle noted most frequently in O the initial follow-up completed the year subsequent to the submission of each Plan of Action and the second follow-up completed in the Fall of 1983, was the school principal. While it is not possible to clearly state the numerous reasons for the principal's alleged failure to promote effective changes in school reading programs, it is apparent to these writers that one of the possible reasons is the principals' (especially in Virginia) lack of understanding about classroom and school reading programs. The results of a recent survey conducted in Virginia clearly indicate that elementary school princpals receive little or no preparation relevant to assuming a leadership role in school reading programs (Laffey and Kelly, 1982).

The obstacle mentioned second most frequently in the follow-up studies was time. The reading teacher-specialists stated frequently that there is a lack of time (1) to adequately diagnose the numerous and severe reading disability cases, (2) to coordinate the special reading programs (i.e., Chapter I and remedial classes) with the classroom teachers' program, and (3) to plan an effective remedial program within the total school program. This lastly noted obstacle certainly testifies to the very real possibility that reading specialists are not being given time to do what they were educated to do—i.e., provide high quality special reading services to children in our public schools.

A final conclusion drawn from the results of the study is that the Plans of Action had both short term and long term effects on school reading programs. The short term effects were apparent as a result of the many objectives attained during the first follow-up year of the study. The long term effects were less apparent but, nevertheless, in evidence as indicated by the number of reading teacher-specialists who not only recommended the use of a Plan of Action on an annual basis but in fact, the number of specialists who did use a Plan of Action annualy. Also, it should be noted that the"model plan"included in this report is one which has been reviewed annually and revised according to O newly identified needs. So the model plan is very clear evidence of the long-range impact of a "Plan of Action" that is re-evaluated and revised yearly.

APPENDIX

From the standpoint of budgeting, the establishment of a reading program should be approached with some of the same considerations one would use in budgeting for other programs which require equipment for effective implementation. (Ex. - commercial programs, shop programs, science labs.) I view the present lack of equipment as a major detriment to the effectiveness of the program. A balance of materials and equipment is needed in a structured remedial program which is geared to the individual needs of the students. Of particular importance for disabled readers is the availability of equipment which aids in correcting the inordinate number of auditory deficiencies which they display. The listening equipment, typewriters, and reading center serve as aids in that the teacher can provide instruction to a small group while other students practice skills utilizing the equipment and the reading center.

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TOWARD A CORE CURRICULUM FOR READING EDUCATION

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It probably is time to delineate a consciously constructed core curriculum for reading education. Of course, in a sense one can already be said to exist. But, then, this is precisely the problem. Because it evolved in a non-systematic manner, and because it has no "official" sanction, it is very difficult to challenge it,

or to submit new entries to it.

The traditional "publish and wait" means of challenging existing conventions or submitting alternative propositions has changed without our notice. Two factors, or elements, are largely responsible for these changes, increased political activism, and information inflation.

Political Activism

State and federal laws recently mandated that the physically, emotionally, and learning disabled be "mainstreamed" into the general school population. This well intentioned regulation was instigated primarily by parent groups. Struck by the success of such direct lobbying, several major universities have hired professional lobbyists in an attempt to circumvent peer review grant competitions and to have major, long-term awards for "centers" legislatively assigned to their institutions.

Information Inflation and Dilution

The number of journals in the field has quadrupled, while the actual number of articles has increased by an even more substantial multiple when account is taken of conference proceedings, document storage systems, monographs, and reading research published in journals outside of the field, which also have multiplied.

This level of growth constitutes a quantum leap from previous times and suggests the need to reappraise the conventions suited to the prior levels of production.

The primary, though hardly solitary, side effect of this sometimes called "information explosion" is a dilution-of-effect of publications suggesting that it better be called 'information inflation.' This condition takes two forms: one is the tendency for theories and propositions which have been challenged soundly simply to be overlooked in the sea of other publications; and, the other is for new propositions of considerable quality also to be leveled to all others published during that period.

There are several contiguos influences of, and upon, this dilution-of-effect condition to be found throughout academic life and beyond. Quality of research and publications, for example, hardly are factored-in to most "merit" systems. One can almost hear the university managers saying, "Yes, I know that you published a documented means for improving critical thinking last year, but what have you done lately?"

These problems, of course, are not new, but they cannot be easily shrugged off as world tensions rise and the traditional crisis prevention role of education is diluted to insignificance just when an even greater level of potency is needed.

A Core Literature for A Core Curriculum

One means which suggests itself to combat politicism and information inflation is to wade into the center of the problem and, perhaps, thereby correct its mis-emanations. This "bit-of-the-hair-of-the-dog-which-is-biting-us" approach could be undertaken on a trial and learn basis by trying first to establish something of a "core literature" for the field.

A core literature would provide a frame of reference of commonly known "facts" which can be alluded to in discourse among members of a field across time and place. In this way it could serve as a point of departure in illustrating different perspectives, critical reactions, and alternative propositions. Widely known studies and articles always have had a communication and continuity value far in excess of ther intrinsic value. Their intrinsic value, however, often has become exaggerated due to the fact that the original work escapes the debate which would accompany a more official sanction. Margaret Mead's *Coming of Age in Samoa,* for example, stood unchallenged for years. Ironically, it was because this work was so widely referenced as to become unofficially sanctioned that it finally achieved sufficient noteriety to attract a myth squelcher. But this took over fifty years. In the interim several generations of students had their impressions of cultural anthropology defined by the meanderings of a naive, young woman with more skill as writer than as a trained observer.

The greatest likelihood is that an "official" sanction of this work at any time in the past would have sped up this process, and greatly advanced the state-of-the-art.

Reluctance Understandable

Reluctance to identify a specific set of articles, studies, and/or related books can take many forms, each of which has its own legitimacy. Abridgment of academic freedom, fear of enshrining things which should be permitted to wane, and loss of individual professional potency to the judgments of a larger unit are among the most strongly felt concerns.

In place of trying to anticipate and detail a rebuttle to each of these points, I have opted to address more fully some 'Other Problems and Benefits' which I find to be persuasive for a core curriculum.

Other Problems and Benefits

Informal inquiry and personal experience have revealed that, with the exception of the final or research seminars, too little of the literature of the field is presented in typical graduate courses. The identification of a core of articles and studies, by some form of concensus, would provide course professors, state departments, and text book writers with a greater sense of purpose in citing, teaching, and testing knowledge of at least of these studies. In so doing, we likely would feel more inclined to mention yet other articles and studies, and to more actively encourage students to read current journals and monographs for further validations, refinements, or refutations of that "core" literature.

This was brought home strongly to me by a recent published collection called *Reading Research Revisited* (Gentile, Kamil, and Blanchard, 1983). Frankly, this text brought better organization and more stimulating discussion to my Reading Research Seminar than I have ever been able to achieve before. While I do not find the authors' choices of selections fully appealing, the benefits far outweighed my personal objections. The works selected permitted my students to become connected to all others using the text nationally and internationally, and for them to "hear" the deliberations and reactions of other professors represented in the text to a selected core of ideas and studies.

The success of this book argues further for a means of identifying and sanctioning a core literature for an eventional core curriculum. In a de facto sense the authors selected the profession's first core literature, a fact which, I imagine, must cause them apparent pleasure, but some consternation as well, for there is no sanctioned list with which to agree or disagree.

In any case, in an attempt to achieve some of the benefits of a core curriculum with few of the hazards. I offer the system stated below and findings by Nancy Wilcox, a former Educational Specialist Degree student, to the initial steps of the proposed model.

Model for Establishing a Foundational Literature

1. Count the most frequently cited articles, studies, and books of any type found in the most often used textbooks in a given college or university department.

2. Submit this list for initial ranking (1-7 Scale) and suggestions of additional references to the staff of that department.
3. *Critically* annotate the most highly ranked citations.
4. Re-submit to the department for re-ranking and to other departments for national normative data.
5. Seek a vote of approval and support for publications and distribution of the completed project from a recognized learned society.
6. Thereafter, a committee within the society should be responsible for recommending when a revision would be in order.

The Wilcox List

Nancy Wilcox conducted steps one and two (see below). She identified eighty citations in the ten most frequently used texts in the Division of Reading Education, University of Missouri-Kansas City. This list was reduced to forty-three by a ranking procedure. Each citation obtaining a four or higher average rank from the professors was identified as a foundational, or core, citation. These, then, were listed in descending order though not numbered as such for there were many ties.

What Next?

Much can be done with the Wilcox List. As noted, it can be critically annotated. Other departments can re-rank the citations. A more sophisticated system of categorization can be used in a subsequent ranking. The most frequently raised question by the professors doing this inital ranking was on what basis were they to consider each citation. Should these have been considered in terms of simple historical value(?), as making a fundamental point (?), as a representative piece(?), or by some other propositional category.

None of these logical refinements has diminished the value to our graduate students of a departmentally sanctioned list. In due course most every professor will express qualifications of several, if not all, of the citations on this list. But each, too, now knows something of the other and of our collective image, which can be changed through reasoned persuasion.

Closing Thought: A Controlled Substance

In considering a new proposition one employs all matter of metaphors and analogies to test the credibility and value of the idea. Several such analogs were alluded to above.

Still one other occurs to me at this time. It is the sense that a "sanctioned" core literature would be very much like a "controlled substance" in pharmacy. It could be powerful when appropriately governed and used by ethical, well trained, practicing professionals, though dangerous where any one of these elements was absent.

The effectiveness, influence, and credibility of a profession can almost be calculated solely by its willingness to accept and deal with the paradoxes of danger and power.

Facing this challenge squarely could be a small but significant rite of passage for professional education in general, and for reading education in particula.

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WILCOX CORE CURRICULUM LIST

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A COMPARISON OF SOCIAL SCIENCE TEXTBOOK READABILITY AND STUDENTS' READING LEVELS

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Developmental educators work arduously to diagnose and remediate the academic deficiencies of their students. Too often, however, the reference point of our efforts is a national, or some other presumedly valid, standard (e.g., grade "13" reading level), rather than the characteristics of the local general college population. As those responsible for initiating and evaluating programming for our students enrolled in developmental education courses, the researchers sought to learn more about some of the factors that affect success among the non-remedial student—the student with whom our developmental education students must compete in standard course work. Specifically, we wanted to identify the readability levels of textbooks used in introductory college courses, and the reading levels and typical study habits employed by the general college population. Lastly, we investigated whether these factors correlated with students' final grades.

The study consisted of two phases. Phase I assessed the readability levels of 51 primary textbooks used in introductory social science courses in seven disciplines. Three traditional formulas were used. The second phase investigated the relationship between the readability levels of students' texts, students' reading levels and study habits, and their final grades.

The study was conducted during the 1982-83 academic year at Indiana University of Pennsylvania, a public university located in central-western Pennsylvania. Its undergraduate population is approximately 11,000 students, including the Main campus and two branch campuses. The average SAT score of entering freshmen at the Main campus is slightly higher than 1000, and the average at the branches is approximately 800.

In order to fulfill the University's general education requirement, all students must complete a minimum of five introductory social science courses. This constitutes approximately 30% of the general education requirement. Courses fulfilling this requirement are offered through the following departments: History, Anthropology/Sociology, Criminology, Economics, Geography, Psychology and Political Science.

Social science courses were selected as the basis for this study for three reasons: they are the largest single group of courses in which the undergraduate population enrolls, they utilize the largest number of different textbooks for introductory course work, and they were most likely to provide the greatest range of students representative of the university in general.

PHASE I: READABILITY

The purpose of this part of the study was to identify the readability levels of primary textbooks used in introductory social science courses, using three traditional formulas. The differences in findings among the formulas is presented.

There is little literature available which reports the readability results of college-level texts. Kurzman (1974) analyzed 23 social science texts using the SMOG formula. He concluded that 60% were written at or above the 15th grade level. A study by McClellan (1971), utilizing the Dale-Chall formula, reported that 40% of the 20 texts from various content areas placed above the 16th grade level. In contrast to these results, Cline (1972-73) found that only nine of the 17 non-technical texts he assessed using the Dale-Chall formula placed at or above the college freshmen level. No literature was located which compared the three formulas used in this study.

METHOD

Procedure

To identify textbooks commonly used in introductory social science courses, 41 faculty members who were teaching introductory social science classes in the Fall 1982 semester were asked to provide the titles of the primary texts commonly used for the same or similar courses. Twenty-six of the faculty responded, and provided 53 different titles. Fifty-one of the texts, representing all content areas above, were available for readability analysis.

Three readability formulas, the Fry (1977), SMOG (1969) and Fog Index (1972) were used. Each is a two-factor formula based on a semantic variable (number of syllables or number of polysyllabic words) and a syntactic variable (sentence length). These formulas were selected because of their popularity of use and their ease of application. With reference to formulas such as these, Klare (1974-75) has stated that two-variable formulas are sufficient for most purposes, and that added variables generally add little predictive value in comparison to the ap-

plication time involved.

While the authors' directions for each formula indicate that a sample of three passages per book is minimally sufficient for analysis, five passages from each text were included for the Fry and Fog analyses, and three passages per book were included for the SMOG. In each case, the same passages were selected for inclusion; however, those used for SMOG were longer, containing ten sentences each, rather than the 100-word passages needed for Fry and Fog. The passages were selected by dividing the texts into fifths, and selecting samples which contained essentially prose material with little or no numerical references graphs or other textual aides as part of the body of the material.

Results

The content areas and number of texts assessed for each include: Criminology (5); Economics (6); Georgraphy (5); History (11); Sociology (13); Political Science (3); and Psychology (8).

Overall

The highest readability estimates were obtained using the Fog Index, which yielded a mean readability level of 15.5 for the 51 texts. The Fry and the SMOG yielded approximately equal means of 13.3 (Fry) and 13.4 (SMOG). Both the Fry and the Fog had ranges of 8+ grade levels, while the SMOG had a considerably more restricted range of 5 grade levels.

Content Areas

The Fog Index yielded a mean readability estimate of at least one grade level higher than those of the Fry and SMOG in six of the seven content areas, with Geography being the exception. In contrast, the Fry and SMOG produced approximately equal means (i.e., within one grade level) in all seven content areas. In computing a mean ranking for the three formulas for each content area, the economics texts had the lowest readability estimate overall, and the political science and sociology texts had the highest. Average sentence length appears to account for the higher grade level findings in these content areas.

Individual Texts

With reference to individual texts, the Fog Index resulted in an average score of 2-2½ grade levels higher than the Fry and the SMOG. The Fog Index yielded results of more than one grade level higher than the Fry and the SMOG in approximately 75% of the cases. Geography was the only content area in which the Fog results were not consistently higher than the Fry and the SMOG.

The Fry and SMOG results were equal (within one grade level) for 55% of the individual texts. Fry resulted in higher scores than the SMOG in 25% of the cases, and SMOG resulted in higher scores than Fry in 20% of the texts. In comparing the Fry and the SMOG, equal scores were found more frequently in the criminology, economics, geography and history texts, and least frequently in the sociology, political science and psychology texts. There was no discernible pattern of ranking on the SMOG/Fry for the last three content areas.

PHASE II: A COMPARISON OF READABILITY, READING ABILITY, STUDY HABITS AND FINAL GRADES

The second phase of this study was to compare the reading levels of the students enrolled in introductory social science classes with the readability levels of the primary texts used in those classes. An assessment of the relationship between students' study habits and reading levels, and their final grades, is also investigated.

McClellan (1971) investigated the reading ability of junior college students and the readability of assigned texts. Of the 358 students tested with the *Nelson-Denny Reading Test*, approximately one-third of the subjects scored in each of three grade ranges: below 10th grade, 10-12th grade, and 13+ grade. The readability of the texts used in the four social science courses in which the students were enrolled was determined by the Dale-Chall formula. In all cases the readability level of the texts was significantly higher than the mean reading levels of the students. She concluded that none of the texts used in the social science courses was appropriate for the students.

Cline (1972-73) conducted a similar study with 279 community college students. Using the Dale-Chall formula the mean readability level of 17 non-technical texts was found to be 13.0. The mean reading level of the students was 12.6, as measured by the *Nelson-Denny Reading Test*. Fifty-two percent of the students in all seventeen classes were found to have reading levels below the texts being used.

A study by Kurzman (1974) also found the readability of college textbooks to be higher, on the average, than the reading levels of the freshmen. The mean reading level of the 81 freshmen tested with the *Nelson-Denny Reading Test* was found to be 10.4, while the mean readability level of the 23 social science texts was found to be on the 14th grade level. The SMOG formula was used to determine readability level. Two reading specialists were asked to estimate the readability level of these texts using the following criteria: a number of polysyllabic words, sentence complexity, style, density, typography, and organization for learning. The reading levels assigned to these texts by the reading specialists correlated with the finding of the SMOG formula ($r = .69$). The researcher concluded that the readability level of social science texts in most cases was many grade levels above the reading levels of the students who were to use them.

METHOD

Subjects

The subjects were 158 students enrolled in eight sections of four introductory social science courses at Indiana University of Pennsylvania. The courses included World Geography (GE 101), History of US & PA II (HI 104), General Administration of Justice (CR 101), and General Psychology (PC 101). Student participation was voluntary. About 50% of those students enrolled in the specific sections used took part in the study. The majority of the other students did not refuse to participate in the study—they were not present in class the day the research took place. With the exception of one class section, students did not have knowledge of their potential participation in the study until they arrived in class the day the testing took place.

The majority of the subjects were freshmen (55%). Thirty-four percent were upperclassmen and 11% were not classified in these traditional categories. Seventy-five percent of the students attended the Main campus and 25% attended the Armstrong County branch campus.

Materials

The comprehension section of the *Nelson-Denny Reading Test*, Form E (1981) was used to assess the reading levels of the subjects.

Students also completed a study habits questionnaire taken from Bragstad and Strumpt (1982). This 50-item questionnaire includes seven categories of study habits: concentration, remembering organizing time, studying a text, listening and notetaking, test-taking and motivation.

The instructors submitted the final grades earned by the subjects at the conclusion of the Spring semester.

Procedures

Six of the social science faculty members who responded to the first phase of this study agreed to provide class time for the administration of the materials used in this study. A total of 8 class sections was used. These instructors used a primary text as required reading for the course.

In each class section the same procedure was followed. An explanation of the purposes (requirements and procedures) of the study was presented to each class. The students who volunteered to participate could receive their results and an interpretation of the same upon request.

The comprehension section of the *Nelson-Denny Reading Test,* Form E was administered and scored according to the test directions. Students then completed the *Study Habits Questionnaire* by answering *yes,* or *no* to each item as an indication of whether the statements reflected their study habits for the courses they were in at the time of administration.

RESULTS

Reading Levels

The mean reading level of all participants was 15.1. When year in school is taken into consideration, the upperclasmen averaged 16.2, the freshmen averaged 15.1, and those students with an unclassified status averaged 14.2.

The reading levels ranged from 4.9 (2 students) to 16.5 + (63 students) for all students tested. Eighty percent of the total group scored at or above the college level (13-16.5 +). This figure represents 77% of the freshmen, 89% of the upperclassmen, and 72% of the unclassified students. There was 11% of the total group who scored below the 11.0 reading level and 5% who scored below the 8.0 reading level.

Readability and Reading Levels

In most cases the mean reading level of each class section approximated or exceeded the readability level of the primary textbook as identified by the three formulas used in this study.

In terms of the Fry estimate, students' reading levels exceeded the textbook readability level in 48% of the cases and approximated the readability level in 16% of the cases. Thirty-seven percent of the students are reading below the textbook readability level identified by the Fry estimate.

With respect to the SMOG formula, 63% of the students are reading above the readability level of the textbook, 8% are reading at about the same level as the readability, and 28% are reading below the readability level indicated by this formula.

Results based on the Fog Index are less clearly reported on a parallel basis because for three of the five textbooks the readability level approximates the maximum reading level obtainable on the reading test. Thus, whether some students' reading levels exceed the readability levels of those specific textbooks cannot be determined. The results do show that 48% of the students have reading scores that are equal to or above the readability level of the textbook used in their class. Fifty-two percent of the students received scores below the readability level as assessed by the Fog Index.

Correlations were computed for each of the three formulas for reading level and readability level of the five texts used. None of the three correlations, which ranged from -0.10 to +0.14, was significant at the .05 level.

Study Habits and Reading Levels

The results of the study habits questionnaire were reported in terms of strengths (six or seven statements in agreement with predetermined answers), neutrals (three to five statements in agreement), and weaknesses (zero to two statements in agreement). The answers were based on efficient study habits recommended in texts on study habits and techniques (Pauk, 1974; Shepherd, 1979).

The total sample showed a mean number of strengths as 3.77, neutrals as 2.92, and weaknesses as .32, based on a total of seven categories. This pattern of the mean was repeated in all but one class section, where the number of categories designated as neutral exceeded those indicated as strengths.

The rank order of the study habits categories by the number of strengths were: motivation, listening/notetaking, remembering, test-taking, organizing time, concentration, and studying a chapter. In the four classes comprised of 33-50% freshmen, there was not a significant variation between the number of strengths, neutrals or weaknesses indicated by freshmen versus the upperclassmen. For example, in one section of Geography, 40% of the students were freshmen and 43% of the total number of strengths were reported by freshmen. Other class sections were predominately freshmen or upperclassmen, but did not represent a proportional mix of responses according to student classification.

The correlations of reading levels with the number of strengths, neutrals and weaknesses of study habits, respectively, ranged from -0.49 to +0.61 for the individual classes. Generally, there was a higher correlation between the number of strengths and reading levels, except for two class sections where the neutral categories showed a higher correlation. For the total group significant correlations at the .01 level were found for the number of strength categories and reading levels (0.25) and the number of neutral categories an reading levels (-0.32).

Final Grades

The final grade distribution of the 158 participants is as follows: *A*-30 (19.0%); *B*-39 (24.7%); *C*-59 (37.3%); *D*-16 (10.1%); *F*-9 (5.7%); *W/I*-4 (2.5%). With the exception of one class, the grades are representative of the final grade distribution of the total student enrollment in these classes, according to the instructors.

Reading Levels/Final Grades: Determination of the correlation between reading levels and final grades was based on the number correct on the comprehension section of the *Nelson-Denny Reading Test,* Form E. For the purposes of analysis, courses taught by the same instructor are grouped together.

A moderate overall correlation of +0.48 was obtained; however, the correlations for the separate instructor's classes show a considerable range. For two of the five course groupings, there is little relationship between students' reading levels and their final grades—HI 104 (+0.15) and GE 101-A (+0.22). Moderate correlations of +0.40 and +0.44 were obtained for the PC 101 B, C and the PC 101-A classes respectively, and a relatively strong correlation of +0.71 was obtained for the GE 101-B class. (Note: CR 101 was excluded from this analysis because there was no variation in the students' final grades. This class included 10 subjects.)

The final grade distribution by reading level groupings shows the general trend that subjects with higher reading levels received higher grades, and that students with lower reading levels received lower grades. The difference between the mean GPA's of those in the highest reading level category (15.5 +) and those in the lowest reading level category (below 10.0) is nearly two grade levels on a four-point scale (i.e., 2.95 versus 1.38). Intermediate reading levels show a corresponding increase in mean

grades as the reading levels increase.

Study Habits/Final Grades:

Correlations were computed per class for each study habits category (Strengths/Neutrals/Weaknesses) and final grades. Only two moderately high correlations were obtained, and these were for the same class, GE 101-A. These were statistically significant correlations ($p < .01$) of +0.63 between study habits-strengths/final grades and -0.71 between study habits-weaknesses/final grades. This indicates that, for this particular class, students with the highest number of reported study habits strengths received the highest grades, while those with the highest number of study habits weaknesses recevied the lowest grades. This finding was not true of the other classes. For these, a mixed pattern was found between the number of study habits strengths and the final grades students received. The correlations in the remaining classes ranged from -0.26 to +0.28, indicating little relationship between the number of positive study habits utilized and the final grades received.

DISCUSSION AND CONCLUSIONS

Readability

The three-formula readability analysis indicated that, on the average, the 51 social science texts are written at the low-to-mid college level. The Fog Index yielded consistently higher results than the Fry and the SMOG formulas. The differences averaged 2-2½ grade levels for all content areas except Geography.

The Fry and SMOG formulas yielded essentially equal results, within one grade level, for 55% of the texts, particularly within the content areas of geography, economics history and criminology. These two formulas yielded unequal results for many of the political science, psychology and sociology texts; however, there was no consistent pattern of rankings between the two formulas for these texts.

Reading Level/Readability

The mean reading level was 15.1, with 80% of the students placing at or above the college level. Forty percent of the participants scored at the top of the reading level scale. The upperclassmen placed one grade level above the freshmen, and two grade levels above students in the unclassified category.

While the mean reading level of the participants is relatively high, and while the overall readability levels of all texts surveyed (51) was in the low-to-mid college level, those texts actually used by the participants in the study have readability levels which are above as many as one-third of the students. According to the Fry formula, approximately 33% of the students have reading levels two or more grade levels below the readability levels of their social science texts. With respect to the SMOG fourmula, 20% of the students' reading levels are two or more grade levels below their texts. In contrast, nearly 50% of the students' reading levels are at least two grade levels below the textbook readability levels assessed by the Fog Index.

Study Habits

Students generally showed a high number of strengths in regard to study habits—3.8/7.0. This could be attributed to the information gathered from the instructors, since all had indicated that they provide instruction on how to study for their courses. The data taken from the study habits questionnaire is self-report data; however, the fact that participation in the study was completely voluntary, with results being reported only the student, should have considerably deterred the reporting of false data. Even if the validity of the data about actual study habits were questioned, the information still signifies the amount of knowledge that the students possess about efficient study habits. Interestingly, though, there was no significant difference between the study habits reported by the freshmen and those reported by the upperclassmen.

Final Grades

The researchers expected to find significant correlations between students' final grades and their reading levels and study habits. A moderate correlation of +0.48 ($p < .01$) was found between reading levels and final grades; however, the analysis per class resulted in a considerable range of results— +0.15 to +0.71. This indicates that students' reading levels and their final grades are strongly related in some classes and not strongly related in others. There was a general trend, evident when reading levels were categorized, that showed an overall positive relationship between reading levels and final grades.

In general, there was no discernible relationship found between study habits and final grades. The high number of strengths reported in comparison to the low number of weaknesses most likely contributed to the low correlational finding.

Several factors may have affected the results of this study. There was a disproportionate number of students who placed at the top of the reading level scale, thus affecting the variance. Second, the fact that study habits is self-report data may have resulted in some biased data. Third, the generalizability of results is limited due to participation by only 50% of the potential sample population, even though the instructors indicated that the participants and the non-participants were similar in academic performance.

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HOW FARE THE TORCHLIGHTERS? A SURVEY OF AMERICAN READING EDUCATION

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Introduction

In an attempt to gain information about the current status, recent changes, and future trends in reading education in America, we mailed questionnaires to 95 schools in 42 states that, according to Blomenburg (1981), offered both a masters and doctors degree in reading. A total of 37 schools, or 39%, responded with completed questionnaires. The schools represented 25 states and were distributed rather equally across regions in America with nine respondents each from the Northeast, Midwest, and South, while the West and Northwest had eight and two respectively. The data indicated that the average reading education program has five full time and three part time faculty and awarded 28 masters and four doctors degrees from August 1981 to August 1982.

The questionnaire reflected composite interests and concerns identified by the seven reading faculty members at West Virginia University who cooperated in the development of the survey items. The report is organized into eight sections: organizational data; funding for reading education; enrollment trends; degree requirements; control of student quality; factors affecting reading education; effects of reading education on schools; and challenging problems, opportunities and new directions. Each section contains a summary and discussion of results, and quoted comments from respondents are included where appropriate. The report concludes with a general summary and recommendations for further inquiry.

Organizational Data

Results. We were interested in how reading education programs were administratively organized within colleges and how reading program components may be changing. The data indicate that most programs (27 of 37 or 73%) are not separate departments in their particular college organizational structure. Reading was a distinct department in ten or 27% of the schools reporting. The most common arrangement (n = 18) was to have reading education as a program within curriculum and instruction with a designated coordinator. The next most common arrangement reported (n = 7) was to have reading as a unit within elementary education. One school reported that reading education was carried out by an interdepartmental committee and another said reading was a unit in educational psychology with a reading coordinator. Future reading education arrangements were reported by 21 respondents. A majority of them (18 or 86%) said that reading will continue to be organized with a coordinator in teacher education. The one program with an interdepartmental faculty said that arrangement will continue.

An analysis of free responses to a question on future trends and changes reveals that in most colleges reading education will remain closely aligned with teacher education units such as curriculum and instruction or elementary/secondary education. There were no comments suggesting that reading become more separate in an organizational sense. In fact, ten shools made specific reference to reading faculty being less separate and establishing new contacts with language arts, educational psychology, cognitive psychology, and special education programs. Two respondents said they were moving toward program status within education and two others said no organizational or program changes were anticipated. In several instances, respondents made specific reference to emphasizing more research (four schools), emphasizing more classroom teaching (three schools), and reaching new students with outreach and extension efforts (two schools). The largest number of specific comments related to program changes (from eight schools) referred to the development of more undergraduate reading education courses in response to new state education and teacher certification policies. Two of the eight reported plans to offer a reading major or minor with their undergraduate teacher education programs.

Representative Comments.

No major changes in organizational structure but some possible changes within the reading-language arts program area. Undergraduate elementary education will increase the reading requirement from 3 to 6 hours and secondary education will increase from 0 to 3 hours (secondary reading methods).

Reading becoming part of an interdisciplinary study of language with strong linkages outside of education departments. A new area of study may be emerging. This may include developments with computers and their languages as well as more expanded visual presentations with video-discs, etc.

Economic realities have resulted in fewer faculty, especially at lower ranks, increasing insistence upon large class size. The consequence is an ever increasing difficulty to offer advanced level graduate courses. New state mandates for coursework for elementary and secondary certification places increasing demands on smaller faculty. Previously separate elementary and secondary MEd programs have become a single K-12 program and undoubtedly will remain so. Desires for adult literacy, computer literacy, writing across curriculum components are so far frustrated.

A trend is to offer outreach programs featuring graduate study and research—new funds—new students.

More research emphasis.

We'll work more closely with colleagues in cognitive psychology and verbal learning.

Generally lower enrollment in reading and education has caused a cut in staff including reading. We need to move to less clinical, more classroom oriented masters and continue to broaden our doctoral students' programs. Computers and high tech in schools and the challenges of censors are the two critical current problems we are facing.

Greater emphasis on hard research, less on classroom procedure.

The trends are to more use of theory from communication, linguistics, cognitive psychology, and psycholinguistics in developing a process oriented curriculum. We are trying to move from a skills orientation to a stress on how and why in developing curriculum, teaching, and remediation.

Discussion. The survey items on organizational arrangements and program trends indicate that reading education will continue to be organized and administered within teacher education units. However, the combination of decreased funding and smaller numbers of faculty and an increasing undergraduate course requirement to meet new certification and accreditation policies appears to be causing program changes. More undergraduate reading requirements is one trend. Less resources for graduate classes is another. Reading educators are also

beginning to interact more with faculty and programs outside of education. Advanced graduate training appears to be headed in a multidisciplinary direction as faculty and programs are attempting to form new linkages with researchers in communications, language arts, and psychology.

Funding for Reading Education

Results. Eighteen or almost 50% of the 37 respondents reported that funding for reading education had decreased in the last five years. Ten or 27% reported it had remained stable, six (16%) said funding had increased, and seven (19%) said budgets had increased in some areas and decreased in others. Comments from respondents indicated that in eleven instances less money had caused a decrease in staff, courses, services and enrollment. However, there were six comments indicating more staff and more research money than ever before.

Twenty two or 59% said that their schools had "hard" money for research while fifteen or 41% said they did not. Research funding had remained stable at fifteen (41%) of the schools. Eleven (30%) reported a decrease in research funds, while ten (27%) reported an increase.

Representative Comments.

Declining enrollment across university has reduced available monies and necessitates the redesignation of courses and problems to reflect smaller faculty.

Because of reduced funding, we shall offer advanced courses less often and not be able to provide clinical services to the state at the previous level.

We have lost graduate assistantships.

Private gifts have given us a surplus of funds.

Increased support for students is attracting more and better students.

We have received more staff, resources, and research money.

Discussion. The bad news outweighs the good news as decreased funding has had a negative effect upon reading education. From a regional viewpoint, the positive comments are mostly from the southern regions. However, some midwest and northern schools are reporting that hard money for research is still available and that released time for research was supported by school policies and budget allotments.

The most specific and immediate manifestation of less money for reading education appears to be in jobs. Respondents reported fewer reading specialists in elementary and secondary schools and reduction in faculty and graduate assistant positions in reading education.

Enrollment Trends.

Results. Respondents reported lower enrollments and fewer new students (compared with three years ago) for undergraduate, masters, and advanced certificate program components. Two MA programs, regular and classroom reading teacher, remained more stable than the clinical reading MA. The only programs which did not show decline were secondary methods, current doctoral enrollments, non-degree service course enrollments, and enrollment in college reading skill courses where credit was granted.

Discussion. The decrease in enrollment most likely reflects the decline in reading specialist positions as well as the general state of the economy which has forced colleges to offer less financial assistance to students. The slight increase in doctoral enrollments may reflect the need for some to earn a degree to continue in their present position or for others to continue in school due to a lack of teaching positions. The bi-modal frequency for both an increase (15 responses) and a decrease (15 responses) in undergraduate secondary methods may reflect differing trends in certification requirements in various states.

With reference to college skills programs, increases in enrollment seemed to correspond with the granting of credit for such programs, indicating that students prefer some reinforcement beyond self-motivation for skills improvement.

Degree Requirements

Results. Thirty-five (95%) of the respondents reported that reading master degree students are very limited in the number of approved electives they can take. Some schools reported that all courses for the reading degree were required, while others allowed up to one half of the courses to be approved electives. The average percent of elective hours in 22 programs was 13. This means that in a 36 hour program about 4 elective hours are allowed.

As expected, doctoral programs have fewer required courses. Twenty-seven rspondents aid that 50% of the coursework in their doctoral programs was required. For twenty-one respondents the range of elective hours for doctoral courses varied from ten to one hundred percent. On the average, one third of doctoral degree coursework could be electives, subject to advisor and committee approval.

Representative Comments:

These figures (60% required, 10% electives) are for an MS with reading teacher certification; other MS programs are far more flexible.

If students are in reading/language arts, they will take approximately 75% of their coursework in that and closely related fields.

Discussion. Masters degrees in reading appear to be less flexible than other teaching related graduate degrees due to the specialized nature of reading. This is supported by reading educators who determine teacher certification policies. While classroom reading masters requirements tend to be more flexible than the clinical and reading specialist masters, most courses for a reading masters are required. As expected, doctoral coursework requirements are more flexible, allowing degree programs to be tailored to individual needs. The data suggest that masters degrees in reading are structured to meet state teaching requirements, while doctoral degree requirements are more flexible in order to meet individual academic career needs.

Control of Student Quality

Results. The two most frequently reported measures used to assure student quality in both masters and doctoral programs in reading were: (1) grade point average as an entrance requirement (31 programs, 89% of the 35 responses to this question) and a written examination as an exit requirement (23 programs, 66% of total responses).

With specific reference to masters programs, the entrance and exit requirements indicated above were the only two indicated as required by more than 6 respondents.

With specific reference to doctoral programs, five of the eight measures listed on the questionnaire were used in ten or more of the 35 reporting programs. The two exit requirements most frequently reported as used were an oral exit examination (29 programs, 83%) and a written exit requirement (23 programs, 66%). The three most frequently used doctoral entrance requirements were (1) grade point average (31 programs, 89%); (2) a test of writing ability (17 programs, 49% of total); (3) an

oral entrance examination (14 programs, 40%).

Other means of quality control indicated by respondents as used in masters, doctoral, or both programs were (1) standardized entrance examinations such as the Millers or GRE (5 write-in responses); (2) screening interview for doctoral candidates (4 write-in responses); (3) MA thesis or paper (2 write-in responses); (4) higher expectancies within classes (2 write-in responses) and (5) one write-in response each for samples of academic writing after 3 or 6 courses; letters of recommendation; acceptance of dissertation; and preliminary written examination after 12 hours of doctoral course work.

In response to a question relative to satisfaction with quality control measures, twenty-five (71% of the thirty-five responses) indicated that their reading faculty as a whole were satisfied with their current means of quality control; however, eleven respondents (31% of responses) indicated lack of satisfaction with current means. Those indicating lack of satisfaction with current controls indicated such problems as standards being "watered down" because doctoral courses could not be offered for a variety of reasons; quality control decisions being more in the hands of administrators rather than reading faculty; difficulty in reviewing and assuring authenticity of writing samples for large numbers of masters students; and pressure to admit poorer quality students in order to have acceptable numbers of students in courses and programs. Changes being considered and/or in process of implementation included raising GRE cutoff scores and written entrance examination requirements and establishing more stringent quality controls within reading courses.

In response to a question requesting comparison of the quality of current masters and doctoral applicants in reading with those of five years ago, fourteen respondents (38%) indicated that quality of applicants had improved; eight (22%) indicated that applicant quality had deteriorated; and fifteen (40%) indicated applicant quality had remained the same. Personal or collective opinions of faculty were more frequently cited as the means of arriving at responses relative to program applicant quality than was the availability of a specific data base on the issue.

Discussion. It appears that most respondents are relatively well satisifed with student quality and the quality control mechanisms. A few comments suggested that quality was being threatened by the need to lower standards to bolster enrollment figures but, for the most part, programs (78%) reported that quality was the same or better than five years ago.

Factors Affecting Reading Education

Results. Respondents were asked to respond to questions related to the impact on reading education of Special Education, the Language Arts direction in English, and Higher Education changes.

Less than one-fifth (19%) of respondents said that Special Education programs had had significant effects on reading program offerings. Nearly one-third (30%) of respondents said that job opportunities for reading majors had been affected negatively by Special Education changes; and slightly more than one-third (35%) reported that job opportunities had been affected positively. Nearly one-third of respondents (32%) indicated that reading program offerings had been affected by an increased Language Arts emphasis and that job opportunities for reading majors had been affected positively by this change (31%).

Changes in higher education cited as influencing reading program cuts were program consolidation due to funding problems, increases in need for bi-lingual education, and increases in reading requirements for education majors. Slightly more than half of the respondents (52%) reported that these changes had affected reading program offerings and nearly one-half (43%) said they had influenced opportunities in teaching, research and service for reading faculty members.

Discussion. Reading education appears to be in a state of flux and reactions to the impact of Special Education and Language Arts movements vary. For example, almost equal numbers of respondents indicated positive and negative effects of Special Education programs on job opportunities for Reading majors. These results may reflect regional differences in impact of these programs. Also, this may be an indication that some Reading Education programs have either become incorporated in some way with these programs or have worked out effective working relations, while others have not.

Effects of Reading Education Programs on Schools

Results. Responses to questions relating to the impact of reading education programs on schools indicated that slightly more than half of the respondents reported that there has been a significant increased demand for teacher inservice program (54%) and for more preservice reading courses in elementary education (53%). Slightly less than half of the respondents (48%) indicated a significant influence of state certification requirements on increased demand for reading in secondary eduation. Only one-third (33%) of the respondents said that the demand for consulting by reading faculty had been a significant factor in increased school impact.

With reference to factors related to decreases of reading education impact on schools, nearly two-thirds of respondents (62%) indicated significant negative influences on school impact from decreases in federal funding; nearly one-third (31%) felt that a trend for teachers to do their own inservice programs in public schools was a significant factor in decreasing Reading Education program impact. Less than one-fifth (17%) of respondents reported that the following factors had been significantly responsible for decreases in Reading Education impact on schools: private consulting services, textbook company services, and state education agency training programs.

Discussion. Three factors were identified by more than half of the respondents as having a significant impact on how Reading Education programs are affecting schools. Less federal funding was reported as a factor which had *decreased* reading education impact; factors associated with *increased* impact on schools were (1) demand for reading faculty to do teacher inservice and (2) state standards requiring more preservice reading. It seems possible that the decrease in federal funding may be more than coincidentally related to the increased demand for inservice and to the incorporation of more reading competencies into state certification requirements. Perhaps Reading Education departments, schools, and state departments are beginning to forge new arrangements to aid reading in the schools without the strong federal money link that has been available in the past.

Challenging Problems, Opportunities, and New Directions

Results and Discussion. Analysis of free responses to a question asking respondents to indicate what they saw as challenging problems, opportunities and new directions in the years immediately ahead in Reading Education seemed to group around the following areas: (1) new directions within reading couses or programs; (2) increased emphasis on course and program evaluation; (3) perceived problems related to criticisms of educa-

tion or political "ineptitudes" of Reading Educators; and (4) fears of further Reading Education program reduction, or, in some cases, extinction.

New and anticipated directions within reading courses or programs included computer assisted instruction, sophistication of methodology, increased emphasis on language and linguistics, increased basic skills emphasis at elementary/secondary levels, increased development of and attention to strategies for teaching comprehension, renewed interest in reading clinics, and increased involvement in content area reading.

A number of institutions indicated actual and anticipated increase in the number of course and program reviews within program areas and institutions, as increased financial difficulties in higher education cause institutions to reexamine priorities.

With reference to the political area, one respondent wrote: "The most basic problem is the ineptitude of the Reading profession in the political arena—not only are no reading profesionals involved in the debate on critical changes in federal policy for compensatory education but I have yet to meet one who was even aware of the critical elements of the debates." The respondent also predicted that this situation would lead to the eventual elimination of 40-70% of the presently funded reading teacher positions. Other listed problems included the current critical appraisals of education, the obscure role of reading educators in possibly alleviating some relevant problems in this area and what seems to be an actual and anticipated legislative decrease in college reading improvement programs.

Those who feared program reduction or elimination cited financial thrusts as the main cause, but also mentioned possible conglomerates that might mark the end of Reading Education as a "separate visible entity."

Summary and Recommendations

The majority of responents reported that reading education will continue to function within teacher education units in colleges and universities across America. Most respondents said that student quality control policies were working well, demand for undergraduate reading methods courses was stable or increasing, and graduate programs were changing because there is less money, fewer faculty members, and fewer students in advanced level reading courses. The decrease in numbers of reading specialists being trained at the masters level seems to be associated with the increase in the teaching of reading methods to early childhood, special education, and content area classroom teachers. Reading masters programs for specialists or for classroom teachers have remained more stable than have clinical reading masters programs, however. In free responses, ten respondents indicated that reading education had become less of a separate entity at their institutions, while only one free response indicated a more separate identity. Indications are that graduate reading education appears to be moving in a multidisciplinary direction as reading faculty report that they are interacting more with professionals in language arts and linguistics, communication, special education, educational psychology, cognitive psychology and computer technology.

Although we observed that there appeared to be regional differences for some responses, the small sample size prevented us from making valid comparisons. Additional regional surveys are therefore warranted to determine, for example, how funding patterns or state certification policies are affecting particular schools or regions. Several respondents commented negatively on the length (7 pages) and complexity of the questionnaire and there is no doubt that this contributed to the low response rate (39%).

Despite these limitations, we believe tht this survey has provided needed information and pinpointed issues crucial to the profession. Since program reviews in higher education are underway at a number of institutions, these findings may prove useful in viewing and comparing specific reading education programs and program components.

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THEORETICAL ASPECTS OF GRADUATE READING FOUNDATIONS COURSES

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Perceived student dissatisfaction with aspects of a Reading Foundations Course (RFC) at West Virginia University (WVU), and reports of low ratings for reading foundations courses by former undergraduate and graduate reading education students responding to a national survey (Cheek, 1981) led to the development of a survey by WVU faculty to determine status and content of reading foundations courses (Smith, Fairbanks, Saltz, 1983). This initial survey was sent to the 304 colleges and universities in the United States listed by the International Reading Association as having graduate programs in Reading (IRA, 1981). Replies were received from one hundred and twenty-four institutions; of these, ninety-nine reported having graduate and/or undergraduate RFCs at their institutions. Faculty responding indicated which of eleven theoretical and eight skills/related components were included in their course(s) and rated the perceived importance of each component on a five-point Likert scale.

Major findings of the initial survey were: (1) more than 90% of the reporting institutions indicated both theoretical and skills/related components in the RFCs; (2) some "included" components were considered of little or marginal importance by respondents; and (3) definite patterns emerged as to components most and least often "included" and considered "important."

Components reported as "included" by 80% or more of the responding institutions were five theoretical components (Reading Process, Psychological, Pedagogical, and Sociological and Research) and six skills/related components (Word Recognition, Comprehension, Study Skills, Developmental Skills, Current Issues, and Factors Influencing Reading Success). With reference to perceived "importance," only one of the nineteen components, Reading Process, a theoretical component, was considered "important" by 80% or more of reporting institutions as indicated by a rating of 4 or 5 (important or very important) on a Likert scale. The lowest ranking component for "importance" (15%) as well as "inclusion" (37%) was a theoretical component, Historical—Diagnosis and Remediation. Five additional theoretical components (Physiological, Historical—Word Recognition, Historical—General, Historical—Comprehension, and Historical—Study Skills) and

one skills component (Diagnosis and Remediation) were also considered "important" by less than 50% of the reporting institutions. One remaining component, Communication, was "included" in 75.8% of the courses and considered "important" by 53.5% of the respondents.

Analysis of these results raised questions about the relative amount of time devoted to theoretical and skills/related components in RFCs and to the relative emphasis given specific theoretical components.

METHODS: FOLLOW-UP SURVEY ON GRADUATE READING FOUNDATIONS COURSES

A survey form was developed which included two questions concerning the existence of graduate level RFCs and two research questions focusing on theoretical components within RFCs. The first research question asked respondents to indicate the relative amount of time spent on *theoretical, methods,* and *other* areas within their RFC which included theoretical components. The second question asked respondents to focus only on that portion of the course they considered theoretical and then estimate the percentage of that time spent on each of the designated *theoretical* components and to *other* components they considered theoretical.

The *theoretical* components identified in question two (see Table 1) were basically the same as those included in the initial survey with minor modifications based on results of that survey.* In the initial survey, both a general item and four specific subarea items were included for History; in the follow-up survey, only one Historical component was listed. The Pedagogical component, included in the initial survey, was eliminated in the follow-up survey because of the many different interpretations respondents attached to this term. The Communication component was renamed Language to provide more consistency with responses from the first survey.

The follow-up survey was sent to the ninety-one respondents who indicated on the initial survey that they had graduate level RFCs. Of the sixty replies, fifty-eight institutions reported having graduate RFCs; one reported two graduate RFCs, one reported the course had been dropped and another reported the inclusion of an RFC but gave no further information to designate specific components. Thus, a total of fifty-nine RFCs were included in the follow-up survey.

These returns were analyzed for information pertinent to the two research questions mentioned relative to (1) amount of RFC "time" alloted to theory, and (2) the division of this theoretical "time" among the various components. A third research question, relative to the perceived "importance" of the various *theoretical* components in the 59 courses was also considered. Data for this question was available from the initial survey.

FINDINGS

Allotment of RFC Time

The first research question asked respondents to indicate how their graduate RFC time was divided among *theoretical, methods* and *other* components. The range for amount of time considered devoted to both *theoretical* and *methods* components varied from 10-90%, and time for *other* components indicated RFC time for such varied areas of concern as: helping students to improve their own skills, dealing with individual differences, readability, the adult reader, materials selection, and organizing a reading program.

The fifty-nine responses were subgrouped according to the proportion of RFC time spent on *theoretical* components. The column headings in Table 1 indicate that seven courses were reported as having 20% or less of time focused on theory (Subgroup A); twelve as having 21 to 40% of the time focused on theory (Subgroup B); twenty as having 41 to 60% (Subgroup C); fourteen from 61 to 80% (Subgroup D) and six from 81 to 100% of time devoted to *theoretical* components (Subgroup E). These subgroups were used in analyzing the data for the second and third research quetions.

Theoretical Components Within RFCs: Time Allotted and Perceived Importance

The second research question asked respondents to focus only on that portion of RFC time which they considered theoretical and then indicate the approximate proportion of that time devoted to each of the seven designated *theoretical* components and one additional theoretical concern indicated as "Other." Means for percentage of "time" devoted to each component were determined for both the total group and all subgroups. Means for the eight components were then ranked from 1 (highest) to 8 (lowest) within total and subgroups. Both "time" allotment percentages and "time" ranks were included in Table 1.

The third research question related to the perceived "importance" of the *theoretical* components. Ratings on the perceived "importance" of the seven designated RFC *theoretical* components were available from the initial survey (Smith, Fairbanks, Saltz, 1983) for each of the fifty-eight institutions (fifty-nine courses) involved in the follow-up survey. The ratings were indicated on a five-point Likert scale from "unimportant" (1) to "very important" (5) with a rating of 3 considered a neutral position. Mean "importance" ratings for each of the seven designated components were determined for the total group and all subgroups, and then ranked from 1-7 within each group. Means for "importance" ratings and "importance" ranks are also included in Table 1.

When components for the total group were ranked for both comparative "time" devoted to the theoretical components and the "importance" accorded to them, three distinct priority groups emerged. The top priority group of two components, Psychological Factors and Reading Process, had either first or second rankings for the total group for both "time" and "importance." Four components (Language, Research, Sociological Factors and Physical Factors) consistently occupied ranks 3-6 for both "time" and "importance" and constituted the middle priority group. The History component and the theoretical concerns designated as "Other" formed the lowest priority group for "time" with ranks of 7 or 8. History also had the lowest rank for "importance" (7). No "importance" ratings were available for the miscellaneous "other" group.

Comparisons were made between the total group and subgroup "time" allotments and rankings, and between total group and subgroup "importance" ratings and rankings. In addition, comparisons were made between "time" and "importance" rankings for each component for both the total group and subgroups. Results of these two sets of comparisons are briefly summarized.

These theoretical components correspond to the 1976 West Virginia certification competencies deemed most theoretical in nature, the selection of which, in turn, was influenced by such reading education texts in use at that time as Smith and Dechant (1961), Ekwall (1973), and Smith (1965).

Total Group/Subgroup Comparisons for "Time" and "Importance"

The Psychological Factor component which ranked first for theoretical "time" for the total group (19.42%), ranged in subgroup rankings from first for Subgroup E (33.33%) to fifth for Subgroup A (13.21%). "Importance" rankings, second for the total group (mean "importance" rating of 3.43), ranged in subgroups from first for Subgroup E ("importance" rating of 3.83) to an "importance" rank of 4/5 for Subgroup D (rating of 2.50). The highest "importance" rating, however, was for Subgroup B (rating of 4.08).

The Reading Process component, which ranked second for "time" for the total group (18.78%), ranged in subgroup "time" rankings from first rank for Groups A, B, and D (highest "time" percentage was 20.42 for Subgroup B) to third rank for Subgroups C and E (lowest "time" was 14.33% for Subgroup E). This component was ranked first for "importance" for the total group and four subgroups, A, B, C, and D, and ranked 4/5 for Subgroup E. The highest subgroup "importance" rating was 4.50 for Subgroup C and the lowest was 3.33 for Subgroup E.

The Language component, which ranked third for the total group for theoretical "time" (17.30%), ranged in subgroup "time" ranks from first for Subgroup C (21.39%) to fifth place for Subgroup E (10%). For "importance," which was ranked sixth for the total group (a rating of 2.78), subgroup rankings varied from fourth place rank for Subgroup A (a rating of 2.86) to sixth rank for Subgroup D (a rating of 2.07). The highest "importance" rating, however, was for Subgroup B (a rating of 3.50).

The Research component, which ranked fourth for total group theoretical "time" (15.87%), ranged in subgroup rankings from second for Subgroup B (19.58%) to fourth place rank for Subgroups A, C, and E (lowest "time," 13% for Subgroup E). Ranked for "importance" for the total group as fifth (a rating of 3.00), subgroup rankings varied from second for Subgroup B (a rating of 4.17) to seventh for Subgroup A (a rating of 2.43).

Sociological Factors, ranked fifth for theoretical "time" for the total group (11.19%) varied in subgroup ranks from second rank for Subgroup E (17.50%) to sixth rank for Subgroup A (10.18%). Lowest proportion of "time" devoted, however, was for Subgroup B (8.25%). The Sociological Factor rank for "importance" was third for the total group and Subgroup C; Subgroups A, D, and E had second place ranks, while the rank for Subgroup B was fourth. Highest "importance" rating was 3.75 (Subgroup B) and lowest 2.79 (Subgroup D).

The Physical Factors component, ranked sixth from total group theoretical 'time" (8.15%) also ranked sixth for all subgroups, except Subgroup A which had the lowest "time" rank (7) but the highest "time" percentage (9.46%). Total group and Subgroup C "importance" rank was fourth; other subgroup ranks varied from third for Subgroups D and E to sixth for Subgroup B. Highest "importance" rating was Group E (3.50) and lowest was Subgroup A (2.71).

The History component was ranked seventh for total group theoretical "time" (6.02%) while subgroup "time" rankings varied from third for Subgroup A (16.36%) to the eighth rank for Subgroups D and E (lowest time, 2.67% for Subgroup E). History was ranked as seventh in "importance" for the total group and for Subgroups B, C, and E; highest subgroup rank was a 5/6 tie for Subgroup A. Highest "importance" rating (3.16) was for Subgroup E and lowest (2.36) was for Subgroup D.

Theoretical "time" devoted to concerns designated as Other in the survey ranked eighth for the total group (3.21%) and for Subgroups A, B, and C. The lowest percent (1.30%) was for Subgroup C; and the highest percent was for Subgroup D (6.07%) which, with Subgroup E, had a seventh place ranking. No importance ratings for the theoretical concern designated as Other were available from the initial survey. Respondents who indicated time for other theoretical concerns beyond the seven designated components listed a variety of topics including: local issues, principles of testing, evaluation, readability, rationale behind current and innovative methods, and principles for grouping.

"Time" Vs "Importance" for Total Group and Subgroups. Comparisons for each of the seven designated components include identification of notable discrepancies (discrepancies of two or more ranks between "time" and "importance" rankings) and the direction of these discrepancies. Notable discrepancies between "time" and "importance" ranks for the Psychological Factor component were found in Subgroup A where "importance" was two ranks above "time" and in Subgroup D where "time" was ranked higher. For the Reading Process component only one notable discrepancy occurred, in Subgroup C where the component was ranked first for "importance" but third for "time."

With reference to the Language component, notable discrepancies occurred in the total group in Subgroups A, B, C, and D. In all of these instances, the ranking for "time" was two or more ranks higher than that for "importance." Notable discrepancies between "time" and "importance" rankings for Research were found in Subgroups A and C where rankings for "time" exceeded those for "importance." Sociological Factors received notably higher rankings for "importance" than for "time" for the total group and for Subgroup A, C, and D. Physical Factors were ranked notably higher for "importance" than for "time" for the total group and for Subgroups C, D, and E.

For the History component, notable discrepancies were observed for two subgroups: for Subgroup A where "time" was ranked higher than "importance" and for Subgroup D where "importance" was ranked higher than "time."

SUMMARY AND DISCUSSION

The first research question asked respondents to indicate how their RFC time was divided among the *theoretical, methods* and *other* components. Approximately one-third of the respondents indicated that in their course, more than 60% of the RFC time was devoted to theory; another third reported 41-60% of RFC time was devoted to theory; and the final third indicated that 40% or less of their RFC time was devoted to theory. The second and third research questions, discussed below, deal only with the theoretical portion of RFC time and how it was distributed among the theoretical components.

Theoretical "Time" Devoted to Specific Components

In both the total group and subgroups, more than 50% of RFC theoretical "time" was reported to be devoted to the three highest ranked components in the respective groups. The identity of these three highest ranked components suggests differences in course patterns which show some correspondence with the reported amount of RFC time devoted to theory (the basis for the formation of the five subgroups). The Reading Process component was the only component included in the

three highest 'time" ranks for the total group and all subgroups. The Psychological Factors component appeared in the three highest "time" ranks for the total group and the three subgroups devoting 41% or more of RFC time to theory (Subgroups C, D, and E). The Language component was in the three highest ranks for the total group and the three subgroups reporting 60% or less RFC time to theory (Subgroups A, B, C). The Research component appeared in the three highest ranks for Subgroups B and D. The Sociological Factors component ranked second with the subgroup devoting the greatest percentage of RFC time to theory (Subgroup E) while the History component ranked third for the subgroup devoting the smallest percentage of course time to theory (Subgroup A). Neither the Physical Factors component nor the theoretical concerns designated as Other appeared in the three highest ranks for any of the groups.

Importance Ratings for Specific Components

Since the majority of the total group and subgroup means for "importance" fell between 2.5 and 3.4 (*neutral* positions on the five-point Likert scale), only those means for "importance" which qualified as *important* (3.5 to 4.4) or *unimportant* (1.5 to 2.4) will be specifically mentioned. It should be noted that there were no mean ratings above 4.4 *(very important)* or below 1.5 *(very unimportant)*. Mean ratings of *important* occurred for the total group and Subgroups A, B C, and D for Reading Process; Subgroups B, C, and E for the Psychological Factors component; and Subgroups B, C, and E for the Sociological Factors component. No mean ratings of *importance* were found for either Physical Factors (ranked fourth for "importance") or History (ranked seventh for "importance"). For both Research and Language (fifth and sixth "importance" rankings), ratings of *important* occurred in Subgroup B. Both the Language and the History components in Subgroup D had ratings of *unimportant*.

Discrepancies Between "Time" and "Importance" Ranks

Notable discrepancies (discrepancies of two or more ranks) and the directions of these discrepancies, will be summarized briefly, following the rank order for total group "time" indicated in Table 1. Two notable discrepancies occurred for the Psychological Factors component, in Subgroups A and D, with an inconsistent rank direction. The "time" vs "importance" discrepancy for Subgroup C for Reading Process indicted a higher rank for "importance" than for "time."

Five rank discrepancies may be noted for the Language component (Total group and Subgroups A, B, C, and D). In all these instances, "time" outranked "importance." One contributing factor to the large number of discrepancies for the Language component may have been the change in term from "Communication" on the initial survey to "Language" on the follow-up survey. Research component discrepancies in Subgroups A and B showed higher rankings for "time" than for "importance." The five discrepancies for the Sociological Factors component (Total and Subgroups A, C, D, E) consistently indicated higher rankings for "importance" than for "time." For the Physical Factors component, notable discrepancies occurred in the total group and Subgroups C, D, and E; direction if the discrepancies was not consistent.

Only one notable discrepancy occurred for History (Subgroup A where "time" ranked higher than "importance"). "Importance" rankings were not available for Other theoretical concerns.

For the five components where consistent directions between "time" and "importance" could be noted, "time" was rated higher than "importance" for the Language, Research and History components and "importance" was ranked higher for the Reading Process and Sociological Factors components.

CONCLUDING REMARKS

No definitive description of a graduate level Reading Foundations Course (RFC) emerged from data gathered in this survey. Distribution of course time indicated that one-third of the reported RFCs could be considered primarily theoretical in nature, one-third primarily methodological in nature, and the remaining third were nearly balanced between a theoretical and methodological focus. Distribution of the theoretical portion of course time among seven designated components showed considerable variation within and among groups. Nonetheless, certain observations can be made:

1. Two of the seven designated theoretically oriented components consistently emerged as highest priority (Psychological Factors and Reading Process) and one as lowest priority (History). These priorities were suggested by the total group "inclusion" and "importance" data gathered in the initial survey, and further substantiated by the total group "time" distribution data and the "time" vs "importance" rankings in this survey.
2. Discrepancies between ranks for "time" devoted and ranks for "importance" for the theoretically oriented components were more numerous and of greater magnitude among the middle priority group of components (Language, Research, Sociological Factors and Physical Factors) than was true for the highest or lowest priority components, suggesting less uniformity in perceptions of the role of these components in an RFC.
3. Comparison of "time" vs "importance" rank discrepancies indicated that some theoretically oriented components (Reading Process, Sociological Factors, and Physical Factors) seemed to be considered even more important than the time devoted would indicate. On the other hand, Language and Research "time" vs "importance" rank discrepancies were given a greater proportion of RFC theoretical "time" in some groups than their perceived "importance" might indicate. Directions of discrepancies for two components, Psychological Factors and History, were inconsistent.
4. The proportion of RFC theoretical "time" devoted to five components (Psychological Factors, Reading Process, Language, Research, and Sociological Factors) in the total group and subgroups ranged from 11-20% with the following three exceptions: (1) Subgroup E courses devoted a full third (33.33%) of RFC theoretical "time" to Psychological Factors; (2) Subgroup C devoted more than one-fifth (21.39%) of RFC theoretical "time" to language; and (3) Subgroup B devoted less than one-tenth (8.25%) of RFC theoretical "time" to Sociological Factors. "Time" devoted to the remaining two components (Physical Factors and History) and the Other theoretical concerns in the total group and subgroups was consistently less than 10% with one exception: Subgroup A courses devoted 6.36% of RFC theoretical "time" to the History component. Calculations of the actual hours of time devoted to the components, however, would indicate greater differences than this might suggest since the amount of RFC time devoted to theory ranged from 10-90%.
5. Comparisons of time allotted to components among the subgroups indicated that the Psychological Factors component was allotted the highest percentage in the subgroup (E)

devoting the most time to theory and lowest percentage in the least theoretically oriented subgroup (A). On the other hand, the Physical Factors and History components were give the highest percentage of time in the subgroup (A) devoting least time to theory and the lowest percentage in the most theoretically oriented subgroup (E). These subgroup differences may well suggest perceptions of the components considered most compatible with a theoretical or a methodological focused RFC.

6. The inclusion on the survey of the seven designated theoretical components seems consistent with the thinking of the respondents since no additional topic was suggested by more than two RFC instructors as an Other theoretical concern.

A Suggestion to the Profession

In the interest of providing the best possible and most effective introduction to *Reading Education*, educators might well engage in further discussion/research/planning to develop a more defensible framework for reading foundations courses.

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TABLE 1

THEORETICAL COMPONENTS OF GRADUATE READING FOUNDATIONS COURSES:
Time Allotments and Rankings; Importance Ratings and Rankings

Theoretical Concerns		Total N = 59 R**	A (1-20%)* N = 7 R	B (21-40%) N = 12 R	C (41-60%) N = 20 R	D (61-80%) N = 14 R	E (81-100%) N = 6 R
Psychological Factors	Time %	19.42 (1)	13.21 (5)	14.42 (4)	19.96 (2)	20.08 (2)	33.33 (1)
	Impt. x	3.43 (2)	3.00 (3)	4.08 (3)	3.65 (2)	2.50 (4/5)	3.83 (1)
Reading Process	Time %	18.78 (2)	18.93 (1)	20.42 (1)	18.16 (3)	20.11 (1)	14.33 (3)
	Impt. x	4.13 (1)	3.86 (1)	4.33 (1)	4.50 (1)	3.86 (1)	3.33 (4/5)
Language	Time %	17.30 (3)	16.43 (2)	19.17 (3)	21.39 (1)	13.42 (4)	10.00 (5)
	Impt. x	2.78 (6)	2.86 (4)	3.50 (5)	2.75 (5)	2.07 (7)	3.22 (6)
Research	Time %	15.87 (4)	13.50 (4)	19.58 (2)	15.35 (4)	15.85 (3)	13.00 (4)
	Impt. x	3.00 (5)	2.43 (7)	4.17 (2)	2.70 (6)	2.50 (4/5)	3.33 (4/5)
Sociological Factors	Time %	1.19 (5)	10.18 (6)	8.25 (5)	11.31 (5)	11.35 (5)	17.50 (2)
	Impt. x	3.37 (3)	3.14 (2)	3.75 (4)	3.50 (3)	2.79 (2)	3.67 (2)
Physical Factors	Time %	8.15 (6)	9.46 (7)	7.25 (6)	9.09 (6)	7.92 (6)	5.83 (6)
	Impt. x	3.10 (4)	2.71 (5/6)	3.33 (6)	3.20 (4)	2.71 (3)	3.50 (3)
History	Time %	6.02 (7)	16.36 (3)	7.17 (7)	3.45 (7)	4.99 (8)	2.67 (8)
	Impt. x	2.68 (7)	2.71 (5/6)	3.00 (7)	2.55 (7)	2.36 (6)	3.16 (7)
Other	Time %	3.21 (8)	1.93 (8)	3.75 (8)	1.30 (8)	6.07 (7)	3.33 (7)

* = Percentage of course time devoted to theoretical components
** = Rankings for "time" and "importance" (Total and Subgroups A, B, C, D, E)
Time % = Percentage of time devoted to each theoretical component
Impt. x = Mean "importance" rating on a five-point Likert scale

COMPREHENSION: THE FORGOTTEN CONCLUSIONS OF THE TRAINING OF TEACHERS OF READING

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When one learns the rudiments of golf, keep your head down, arm stiff, rear out, legs planted, eye on the ball, follow through swing, fingers pointed, the game is often forgotten, or so disliked, never played.

The preparation of teachers of reading with phoneme, grapheme, sight words, motivation, word atack skills, oral reading, silent reading, readiness, eye span, decoding, encoding, recoding, the task of reading as a communication act is forgotten, disliked, or never done by either teacher or pupil.

Comprehension is the act of perceiving a relationship between the subject under consideration and its various counterparts. "The baby is in the new crib." or "The electron is revolving around the heavier proton." The relationship presented in the first sentence is between the "baby" and the "crib." The relationship presented in the second sentence is between the "electron and the proton." As Bruner (1973) states in his introduction to *Beyond the Information Given*, "perception is the act of categorization." We must be able to clasify these data at the most fundamental level, "*the sentence.*" And, as these data are classified, the relationships presented in a sentence are the references to time, space, amount, and quality. If one is to perceive these relationships, one must be able to separate the into their component parts, within the structure of the whole. Since no word, in any language, is uttered or written in isolation, then all words have their contrasts. Contrasts are the only way a human knows the world about him. One knows "in" only through "out" or "on" in relation to "off," or green only through knowledge of other colors or another color. Thus, the classification of the first and second sentence, according to their relationships are:

Time	Space	Amount	Quality
#1 is	in	the (the)	new
#2 is	around	the	heavier

These are the fundamentals of comprehension. They provide the means of a teacher checking whether or not a student knows. When a teacher of reading dwells on any portion of communication below the sentence level, e.g. words, leters, sounds, a fundamental weakness of the present system of teaching reading takes place. Much of the present preparation of reading teachers places a strong emphasis on these areas and the fundamental purpose for teaching reading, *"comprehension"* is forgotten. If one cannot now "on" without "off" then why are most of the teachers of reading teaching a single concept without, at the same moment, teaching its contrast?

Beyond the sentence, the paragraph provides a series of further relationships to the subject at hand. Further, the theme, a series of paragraphs on a given subject, indicates, by means of the "identation" that a new relationship to the same subject is being presented.

The ultimate purpose for communication is to understand the behavior of a subject. Whether the subject be a human or some other form of matter, its existence in the universe of matter must be explained in relation to some or all that effect it, or what "it" effects. Our means to cope with the vast amount of matter in the world has been to clasify the data into the Humanities and the Sciences. Hence we have contrast areas of behavior presented as bodies of knowledge to be understood.

The Humanities, Literature, History, Sociology, Psychology, Music, Art, etc., are bodies of recorded knowledge, as perceived by an author, which attempt to explain the actions of human beings under the influences of various causes, each or all make up the human condition. If one wishes to know what makes Tom or Jane tick, one must be able to clasify the dominant force at a given moment, or a given century, what caused the action - reaction of those humans involved. The major classificatins to comprehend the actions of an individual or a group are their relation to the:

(a) Natural environment (soil, water, temperature, etc.)
(b) Supernatural beliefs (relition, superstititon, etc.)
(c) Societal structures (economic, military, family, political, etc.)

The student, and teacher, should be able to group the major influences at a given time, or a given place, in significant quantity, and assess the quality of the acts in order to understand the subject under consideration. The relationships between and among the Supernatural, Natural, and Society are tantamount to understanding human behavior in all its aspects.

Likewise, when one presents the Sciences for "comprehension" it is the behavior upon and to the matter that is presented for understanding; that is the object of contemplation. Water is studied by first perceiving its basic properties, then observing it act under the influence of nature (heat, cold, pressure, etc.), and then how it acts on other matters (iron, sulpur, etc.), and how do they act on it. These are experiments or observations of the natural effects of time, space, quantity or quality of water on other forms of matter and other forms of matter on water.

The investigation of these data must ultimately complete the cycle and be viewed in terms of the human. That relationship is man's behavior to and with matter and matter's relation to man.

The forgotten conclusion for training teachers of reading "comprehension" is because so many pieces have been isolated from the main task of helping students understand the behavior of the world about them that the pieces have become ends unto themselves. If we can know only through contrast, and in order to show another we in fact do "know", then the act of separation and classification is a must. The human is capable of memorizing, without integrating the data with past, present, or future experience, thereby fooling others and themselves into believing they comprehend, when in fact they are no more than a robot. Teachers must know the basic classifications before they can help others understand. Teachers of reading should take the lead in helping one process information, not just repeat it, but how can they if teachers of teachers of reading don't teach them. Comprehend?

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A COMPARISON STUDY OF BACKGROUND KNOWLEDGE OF COLLEGE UNDERGRADUATES ENROLLED IN TEACHER EDUCATION CLASSES AND DEVELOPMENTAL READING CLASSES

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Overview

This study discusses the results of a survey conducted with students enrolled in teacher education and developmental reading classes. The purpose of the study was to determine student background knowledge in three major areas: (1) study and coping skills; (2) current events, geography, and history; and (3) general vocabulary which normally appears in sixth grade basal readers.

Rationale and Statement of the Problem

Background knowledge of a topic increases readers' ability to understand and recall information from text and to fill in the gaps for information not completely mentioned in the text (Alvarez, 1983; Bransford, 1979; Risko & Alvarez, 1982; Risko & Alvarez, 1983). Often college students are required to read and interpret various types of information and it is assumed that they have been prepared prior to college entrance to cope independently with these materials. A study conducted by Drabin-Partenio & Maloney (1982) found that college students assigned to remedial classes were significantly underprepared to cope with the courses they were required to take because of limited background knowledge. This study attempted to evaluate several aspects of prior knowledge of students enrolled in teacher education and developmental reading classes.

Sample and Materials

The sample for this study consisted of 166 students, 92 of whom were assigned to developmental reading classes. All of these students had scored below the 47th percentile on the Nelson-Denny Reading Test. The subjects ranged in age from 17 to 40.

The developmental reading group consisted of 78 college freshmen, 7 sophmores, 4 juniors, and 2 seniors. The teacher education group was comprised of 1 sophmore, 30 juniors, 41 seniors, and 2 categorized as others.

The survey was designed to elicit information in three areas: (1) general habits (e.g., reading,, viewing, listening, studying, and coping with textbooks); (2) American history and civics, current events, and geography; and (3) vocabulary (definitions and use of context).

The first part of the survey assessed reading and studying behaviors. A set of forced-choice and open-ended questions asked students to describe their reading habits and the ways that they coped with their textbook readings.

Questions concerning current issues were written to reflect national events prominently featured in newspapers, magazines, radio, and televison. Questions on topics taken from U.S. social studies textbooks at the middle and senior high school levels were written to assess knowledge of American history and civics. This portion of the survey was similar to the survey used by Drabin-Partenio & Maloney.

The third section of the survey consisted of two parts. On part one students were asked to select the best definition for ten vocabulary words. On part two students were required to use context clues to identify meanings of ten words. The Vocabulay Subtest, 6th grade level, of the Ginn Reading Program (1983) was used for this section of the survey.

Students were asked to complete the survey carefully and anonymously.

Findings

Table 1 indicates selected questions and responses for the first part of the survey concerning general reading habits of the students.

TABLE 1

RESPONSES FOR SELECTED QUESTIONS FROM GENERAL READING HABITS SECTION OF SURVEY REPORTED IN PERCENTAGES

Questions	Developmental Reading Students		Teacher Education Students	
1. How many hrs./wk. do you spend reading? (not including required reading by professors)	0	20	0	3
	1-5	56	1-5	55
	6-10	14	6-10	28
	11-20	9	11-20	12
	21-24	0	21-24	0
	25-30	0	25-30	0
	Over 30	1	Over 30	1
2. On the average, how many hrs./wk. do you spend watching television?	0	3	0	1
	1-5	31	1-5	29
	6-10	30	6-10	30
	11-20	21	11-20	29
	21-24	1	21-24	1
	25-30	7	25-30	8
	31-40	4	31-40	0

	41-50	1	41-50	1
	Over 50	1	Over 50	0
3. What is your *primary* source for learning about news events?	TV	51	TV	52
	Newspaper	27	Radio	30
	Radio	20	Newspaper	18
4. On the average, how many times do you read a chapter once it has been assigned in your textbook?	1	37	1	69
	2	61	2	28
	3	3	3	3
5. When you open the page to the chapter of an assigned reading in the textbook, what is the first thing that you do?	Read title	37	Survey chapter	41
	Survey	35	Read title	29
	Begin reading	13	Begin reading	22
	Read chapter introduction	12	Read summary	2
	Look over page and read	3	Read study questions	2
			Look at pictures	2
* 6. List the parts of the textbook that are most helpful to you.	Table of contents	16	Table of contents	20
	Preface	5	Preface	2
	Glossary	25	Glossary	22
	Index	34	Index	36
	Headings	5	Headings	7
	Content	3	Content	2
	Introduction	5	Summaries	10
	Chapter Summary	6	Questions	2
	End of chapter questions	3		
* 7. As you are reading the textbook, what do you do to help you organize your thoughts?	Take notes	18	Take notes	11
	Outline	7	Outline	16
	Summarize	0	Summarize	2
	Eliminate distractions	5	Eliminate distractions	5
	Reread	7	Reread	5
	Concentrate on reading	15	Concentrate on reading	2
	Underline or highlight	13	Underline or highlight	30
	Visualize author's message	6	Visualize author's message	2
	Read headings	2	Read headings	8
	Ask myself questions	11	Relate to what I know	6
	Recite	5		
	Read carefully and slowly	6		
	Relax my body	1		
	Memorize	6		
* 8. What do you do when you don't understand what you are reading?	Reread	48	Reread	50
	Ask classmate/ teacher	36	Ask classmate/ teacher	26
	Read until I I understand	14	Look in another book	19
	Look in another book	1	Outline	4
	Ask myself questions	1		
9. What is a Thesaurus?	Correct	18	Corect	72
	Incorrect	82	Incorrect	28
10. What is the purpose of the preface?	Correct	59	Correct	88

*11. What do you do to "make sense" out of what you are reading?	Incorrect	41	Incorrect	12
	Reread chapter	24	Reread chapter	23
	Paraphrase	9	Paraphrase	11
	Visualize the information	12	Visualize the information	11
	Pretend to be the character	3	Put myself in situation	6
	Tell someone else what I have read	9	Recite	3
	Put myself in in situation	27	Read slowly	9
			Relate to something already known	33
	Recite	12	No response	6
	Summarize sentence or paragraph	3		
	No response	21		
*12. List the types of visual aids that are commonly used in your textbook.	Pictures	20	Pictures	34
	Tables	0	Tables	2
	Graphs	12	Graphs	23
	Charts	6	Charts	22
	Figures	1	Figures	1
	Maps	7	Maps	6
	Cartoons	1	Cartoons	2
	Diagrams	0	Diagrams	8
	No response	20	No response	0
	Incorrect response	34	Incorrect response	2
13. How often do you read and utilize the visual aids presented in your textbooks?	Never	6	Never	2
	Seldom	12	Seldom	6
	Occasionally	35	Occasionally	47
	Frequently	40	Frequently	33
	Always	7	Always	13
14. When reading your textbook, do you have a pencil or pen in your hand?	Yes	71	Yes	89
	No	29	No	11
*15. Why do you use a pencil or pen while reading?	Underline	34	Underline	68
	Take notes	19	Take notes	18
	Mark specific parts of paragraph	5	Make notes in margin of textbook	5
	Outline	9	Mark specific parts of paragraph	2
	Circle	3	Outline	2
	No response	30	No response	6
*16. When you are reading your textbook and come upon a word you don't know what do you do to find the meaning of ths unknown word?	Use dictionary	61	Use dictionary	50
	Use context clues	9	Use context clues	30
	Ask friend/ teacher	4	Ask friend/ teacher	3
	Refer to glossary	19	Refer to glossary	17
	Sound it out	1	No response	0
	Keep on reading till I grasp the meaning	2		
	Backward buildup	2		
	No response	3		

*Open ended question. Student could provide more than one answer.

An analysis of responses from developmental reading and teacher education students on the variable of general reading habits revealed specific trends in (1) their use of time, (2) their knowledge of parts of textbooks, and (3) their use of reading strategies. On the assessment of their use of time (Q1, Q2, and Q3), students in both groups indicated that they spend more time reading than watching television. However, they selected television over newspapers as their primary source for learning about news events.

Some similarities and differences were noted in the analysis of questions 6, 9, 10, and 12 pertaining to student knowledge of the use and purpose of parts of textbooks and resource materials. The index, glossary, and table of contents were selected by both groups as the most helpful parts of textbooks. Students in both groups reported that pictures and graphs were types of visual aids used most commonly in their textbooks. Charts were also reported to a high degree by students in the teacher education group. Fifty-four percent of the students in the developmental reading group, as compared to two percent of the students in the teacher education group, responded incorrectly or were unable to identify types of visual aids. While students in both groups could identify some types of visual aids, the students in the developmental reading group had less accuracy and memory for various types of visual aids. Fifty-nine percent of the students in the developmental reading group could describe the purpose of the preface as compared to eighty-eight percent of the students in the teacher education group. Conversely, eighteen percent of the developmental reading students could identify correctly the purpose of a thesaurus as compared to seventy-two percent of the teacher education students.

These preferences were noted among the students response to questions that assesed use of reading strategies (Q4, Q5, Q7, Q8, Q11, Q13, Q14, Q1, Q16). Both groups reported that the strategies that they used most often prior to beginning an assigned reading were reading the title and surveying the chapter. When unable to understand their reading, students in both groups indicated that they relied on the strategies of rereading, asking a classmate and/or teacher, or looking in another book. Similarly, students in both groups indicated the use of rereading, relating known to unknown, personalizing information, paraphrasing, and visualizing as the most helpful strategies to "make sense" out of their reading. When using a pencil or pen while reading, students indicated that they underline and take notes.

To determine meanings of unknown words, the predominant choice by students in both groups was the use of the dictionary or glossary. The use of context clues to determine meanings of unknown words was selected by more of the students in the teacher education group (30%) than in the developmental reading group (9%). Two percent of the students in the developmental reading group reported that they used a "backward build up" strategy. This was defined as the procedure of circling the unknown word, dividing it into syllables, and writing it backwards. There is no way to determine where such a strategy was learned since the responses were anonymous.

Varied responses were noted on study habits. Students in the developmental reading group indicated that they reread a chapter more often than students in the teacher education group. Numerous strategies that aid organization of thoughts while reading were identified by students in each group.

The assessment of knowlede of history, geography, and current events is reported in tables 2 and 3. The percentages of correct answers by category are given in table 2.

The developmental reading students differed from the teacher education students across all categories. Students in the teacher eduation group were more knowledgeable in all categories than those in the developmental reading group. However, even though the students in the teacher education group demonstrated more knowledge of this content, they scored below 70% accuracy in each category.

The specific patterns of responses for each question are given in table 3.

TABLE 2
PERCENTAGES OF CORRECT SURVEY ANSWERS BY CATEGORY
Categories of Questions

College Class	Historical Dates	History	Current Events	Geography
Teacher education students	68	64	61	64
Developmental reading students	35	40	21	23

TABLE 3
RESPONSES FOR QUESTIONS FROM AMERICAN HISTORY AND CIVICS CURRENT EVENTS, AND GEOGRAPHY SECTION OF SURVEY REPORTED IN PERCENTAGES

Questions History	Developmental Reading Students		Teacher Education Students	
	Correct	Incorrect	Correct	Incorrect
1. Who was president before Jimmy Carter?	66	34	78	22
2. How many senators are in the U.S. Senate?	27	73	42	58
3. What are the three branches of the Federal Government?	34	66	76	24
4. Who inented the telephone?	68	32	95	5
5. In what year will the next presidential election take place?	74	26	88	12
6. Name the state where the Battle of Saratoga was fought.	2	98	26	74
Current Events				
7. Who is the Vice President of the United States?	30	70	72	28
8. In what field do we associate the following terms: BASIC, COBOL, ASSEMBLY, SAS?	21	79	64	36
9. Name the country whose jet airliner was shot down by the Soviet Union?	2	98	69	31
10. Name the country where U.S. Marines were recently killed.	30	70	68	32
11. Name the location where the first night space landing occurred.	5	95	14	86
12. Name the country where "Solidarity" has been outlawed.	43	57	72	28
Geography				
13. What countries border the United States?	40	60	76	24
14. On what continent is Egypt?	12	88	46	54
15. In what state is Cape Canaveral located?	21	79	54	46
16. Where is the capital city of Havana located?	17	83	69	31
17. Name the continent where Columbia is located.	26	74	72	28

The findings of student performance on the vocabulary sections of the survey are reported in table 4.

TABLE 4
PERCENTAGES OF CORRECT VOCABULARY ANSWERS BY CATEGORY

College Class	Categories of vocabulary: Definition	Context
Teacher education students	74	95
Developmental reading students	45	71

Knowledge of vocabulary was measured in two ways on the last section of the survey. As stated earlier, these words were taken from a sixth grade basal series. First, students were given ten vocabulary words and were asked to select a definition for each word from four choices. While the students in the developmental reading group had difficulty with this portion of the survey (45% accuracy), the students in the teacher education group only achieved 74% accuracy.

Second, students were given ten different vocabulary words in context, and were asked to select a corresponding definition. Students in the developmental group improved their performance when words were given in context as opposed to isolation. Likewise, students in the teacher education group did better when the words were in context.

Conclusion

We cannot assume that students entering our classes come prepared with a contextual framework that will aid assimilation of ideas presented either through lecture or textual readings. Students entering developmental reading and teacher education programs may lack essential study habits and be unaware of varied resources to aid their studying (e.g., visual aids, thesaurus). Also, students who do not possess basic knowledge in history, geography, and current events may be unable to proceed to a higher level of learning in these and related areas. Knowledge of vocabulary (beyond the sixth grade level) seems to be a minimum requirement for all college students. Also, if prospective teachers have poorly developed vocabularies, it is unlikely that they will be able to instill this knowledge in the students that they teach.

College instructors need to be aware that students may lack the appropriate background knowledge needed to cope with information presented in class or in asigned readings. It is necessary that college instructors be informed on the techniques designed to "bridge the gap" prior to assigning chapters. Instructors should be knowledgeable in the use of teaching strategies such as prereading activities, the active use of visual aids, and study guides, to facilitate their students' learning. Perhaps the main challenge of the 80's may well be the instruction of college personnel in the use of techniques for reading in their subject matter areas.

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A REACTION TO DISCUSSIONS AT THE FIRST GENERAL SESSION OF THE AMERICAN READING FORUM, DECEMBER 8, 1983, SARASOTA, FLORIDA

POLITICAL ACTION AS A REACTION TO "A NATION AT RISK"

ROGER De SANTI

Recent publications from those outside the field of education which appraise the state of education have left those within the field of education seeking to initiate constructive but reactionary steps. To a great extent, the success of these steps will be dependent upon the level of society at which they are aimed and the specific individuals who are approached for support.

While there is little to debate regarding the importance of the effectiveness of the individual teacher within the individual classroom and the extensive impact of federal policy, the level of society which should be targeted for implementation is the state government. Within the american tradition of governance, the provision of education is the purview of state governments. It is the state government which, through its legislature, departments, boards, and agencies; regulates and controls expenditures, licensure, curriculum, and evaluation. The recent appraisals and publications have caused many to believe that the time to do something will be rapidly upon us. At the time of this writing, state legislatures are preparing for their next session. Among the implementations and considerations are: (a) more than half of the states will ponder methods for teacher salaries to be based on performance rather than length of service, (b) teachers who produce superior work in California will be awarded bonuses, (c) teachers will be required to pass basic skills and area of concentration tests in Arkansas, and (d) New Jersey may allow persons to become teachers without taking college education courses.

If teachers and teacher trainers are to move from a position of reaction toward one of implementation, then we must influence the opinions and actions of those who make the decisions regarding regulation and control. Within the state level there is a six step process which can be followed. The first is to develop a statement of position which presents that which is desired. This statement should include both the logic and rationale as well as the projected cost of both implementing and failing to implement the proposal. The second step is to garner support from professional organizations and associations; to discuss the proposal with fellow professionals. This permits refinement of the proposal and the assembly of the base of popular support which is instrumental to influencing the decision makers. The third step begins the actual campaign for change. Those decision makers who will be targeted must be selected. The list of names, addresses, and telephone numbers will most likely come from the group which includes the: governor, state superintendent of eduation, members of the education committees of both the state house and senate, members of the board of education, members of the board of regents, and local superintendents. The fourth step includes contacting the selected individuals. Of the three methods available, in person, in writing, and by telephone, the most effective approach is probably a medley of the three working in tandem. While the specifics will be dictated to an extent by the situation, there are some considerations which should be included. Meetings in person, whether in an office, restaurant, or wherever, should always include persons from the elected person's district. This

indicates the interest of the people "back home" and implies that the representative's actions will be monitored. Some professional oganizations have initiated "legicators" sessions at their conferences. These sessions are designed to bring together legislators and educators in an open forum to discuss issues and concerns. In its opening statement, the letter of concern should include the name of the association(s), the size of the membership, and the purposes for which the association exists. The proposal then follows. Durng the last few decades the telephone has become one of the most effective tools of business. A telephone call can establish an immediacy hard to achieve through other methods and, in the course of a few conversations, can break down formalities and have the parties on a first name basis. The fifth step requires knowing when the proposal will come up in committee or the legislature. In a sense, this is the moment of truth, the persons you have contacted either are or are not supportive of the proposal. At this point your greatest skills of persuasion may be required. The sixth and final step is follow-up. To those who have been supportive goes our thanks. To those we have not won over we ask why and what it would require to win their support.

To some, lobbying, seeking to influence legislators, is distasteful. To others it is a means of action. Perhaps as eduators we can bridge these opinions by perceiving the process to be educating the decision makers regarding the needs of education. Within the last several years this process has contributed to Louisiana's decisions to establish the position of reading specialist and to require reading education courses for all elementary and secondary education majors. Each of us can assess the needs of our area and strive to fulfill them. We need not exist in a malaise of reaction.

A REACTION TO DISCUSSIONS AT THE GENERAL ASSEMBLY OF THE AMERICAN READING FORUM DECEMBER 10, 1983, SARASOTA, FLORIDA

DEVELOPMENT OF NONSEXIST ANAPHORIC STYLES

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Concomitant with an author's responsibility to write a text of worth is the responsibility to write that text in a manner which enhances the readability of the text. Recent emphasis on mores which expect the use of nonsexist language has complicated the process of writing with clarity.

Potential solutions range from staying within the traditional structures of our language to creating new structures. Within the traditional structures, the author can altogether avoid use of anaphoric pronouns by using only nouns. Unfortuantely, the constant repetition of the noun can become a monolithic dirge which can frustrate or sedate the reader. Alternatively, the author can elect to use only plural nouns and therefore be able to use the referent *they* as the nominative plural of *he, she,* and *it.*

A secondary possibility is to model present traditional structures for the modification of other traditional structures. For example, we could all agree that words such as *they, you,* and *your,* when used in the nominative, may be either plural or singular.

A tertiary approach involves the modification of present language structures which lead to configurations such as *he/she, him/her* and *s/he.* On the part of both authors and readers, this approach requires the same communicative agreement as adapting to an indiviudal word which may be used as a plural or singular nominative.

A fourth level approach can be based on a desire to establish a new word or words which would encompass the qualities of female, male, neuter, singular, and plural. Such a word might be generated by agreeing to factor the elements held in common among the words *she, he,* and *it.* Again, the use of a word such as *she it* would require agreement between and among authors and readers.

A final option is for the author to post a disclaimer at the beginning of the text. Such disclaimers have essentially stated that regardless of the referent pronouns which have been employed, both sexes are to be included within the reader's understanding of the text.

The task at hand is to recognize that there is a move toward avoiding the generic use of male nouns and pronouns when content refers to both sexes and to collectively decide which conventions will be adopted for ths purpose. Just as the graphophonemic system and the surface level structure of syntax are mutally agreed upon contrivances for the purposes of communication, so too can we agree to create anaphoric referent pronouns which are nonsexist and communicative in their nature.

BILINGUAL EDUCATION: CONFOUNDING CHALLENGES FOR READING EDUCATORS

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Entry states—Texas, Florida, California, New York—have long been faced with the challenges of teaching reading to speakers of other languages. With recent immigration crises and legal decisions, other states are faced with the realities as the courts affirm the right of all students to learn despite *language differences* (M.L. King vs. Ann Arbor School System, 1979). Considering the wording of the litigation, which places emphasis on language *differences,* we must face the reality that many of our students are limited English proficient (LEP) students since we work with migrant worker youth, inner city or rural low socio-economic youngsters whose language differences impair their learning progress. It behooves us, then, to become proficient in the application of English as a Second Language (ESOL) techniques in order to facilitate the reading of LEP students.

The basis of ESOL instruction is the emphasis on *language.* Because of the language differences of the LEP child, the teacher is essentially working with a lingustic toddler. Normal students enter the school with five years of language training in English. The LEP child may have preschool language training, but not in English. Thus, they are linguistic toddlers with an idea of how language functions, but without the ability to communicate in the instructional language (i.e., English). The challenge may be compounded by language different children who also lack experiential or academic background. Migrant worker children, for example, have vast travel experience, but it is severely restricted to rural, agrarian contexts. Recent immigrants from

Central America may never have attended school. These children may be eleven or twelve years of age chronologically, but less than five academically. Assuming that the majority of the teachers working with these students are monolingual (ie.,, speakers of English only), there is a need to identify the aspects of language that cause interference and techniques which overcome these interferences.

Language

Language is a unitary system composed of three parts: (1) sounds, (2) structure, and (3) lexicon. Differences between home and school language in each of these areas tend to interfere with communication. This can cause misdiagnosis of skill deficiencies as teachers incorrectly mark language differences as errors. It can hamper learning as information is inadequately received by the student.

Sound differences can cause aural misperception and mispronunciations. The Hispanic child, for example, hears and pronounces *cat, cot, cut,* and *caught* as the same word. Thus, he may misunderstand a concept read or heard, or be penalized for a mispronunciation during oral reading. The five vowels have one sound in Spanish, eleven sounds in English—consider the child's response to a word like tomorrow with the varying sounds associated with the *o,* for example. The mispronunciation comes not from a misunderstanding of the word, but from the child's attempt to approximate the sounds using the sound sysem available in the native language. Consonants also present difficulties for LEP students. Hispanic youngsters, for example, do not have the variety of ending consonants in the final position that we experience in English. Blends, especially, do not occur in the final position in Spanish and, thus, are rendered virtually unpronouncable to the Spanish child—*Ford* becomes *for;* initial sounds are approximated, also, using known linguistic sounds: *yes* and *yellow* become *jes* and *jello* as the child tries to approximate /y/ and *start* becomes *estar* as the child approximates initial /s/ and final /rt/. These are not mispronunciations; the child may know the word being called. They are linguistic approximations limited by the sound structure of the native language.

When words cluster in phrases, sentences, and paragraphs, *structural differences* between languages occur. Word meaning can be expanded and altered by changing structure. For example, *wolves* means a "swift carnivorous dog-like animal" where the plural ending implies more than one—these plural endings are dropped because of low stress and meaning is lost. *Word* order plays as great a role as word form. *"The bear ate the man."* has a very different meaning than *"The man ate the bear."* many languages use structural forms within the word unit which cause word order to be less important. English rather rigorously requires adjectives to precede nouns; in Spanish this is reversed. The change can cause interference as the ESOL child reds *"It's a large, blue ball."* which would be ordered, in Spanish, *"It's a ball, large, blue."*

That the student must learn another, parallel, *vocabulary* when entering a second language makes *lexical differences* obvious. A major miscommunication factor is limited knowledge of the vocabulary in the second language. But lexical difficulties extend beyond a single dictionary word definition. Additional difficulties for the ESOL student involve multiple denotations (e.g., *run* in *home run, run in one's stocking, run for office),* connotations (e.g., *thrifty* is a synonym of, but not the equivalent of, *cheap),* and homonyms (*to, too, two; wear, where).* Many words in Spanish serve as cognates when learning English. For example, *telephono* is telephone. However, others appear to be cognates and are not, for example *tomar* suggests *tomorrow* and *minuto* suggests *minute* or *tiny.* These false cognates can often cause misunderstanding and confusion.

It should become increasingly clear that the teacher of the LEP child has a two part responsibility: skills and language. The teacher of the monolingual child considers the skill needs and teaching methodology. Since the child's language is consistent with the teacher's, there is little concern about language interference. The teacher of the LEP child, on the other hand, finds direct skill instruction is confounded by language differences. When teaching a phonic rule to a monolingual child, you present the pattern orally and visually and direct the child, through successive probes, to discover the sound-symbol association. Consider the language different child. Language differnce may hamper each step—auditory similarities may remain undetected because of phonological differences between native and instructional languages, verbal guidance may be unhelpful since it is not understood due to lexical differences. The standard lessons require adjustment.

How do First and Second Language Acquisition Compare?

There seem to be more similarities than differences in acquisition of native and second languages.

Language is a system of sound for the native language learner; but is a dual sound system for the second language learner.

The phonetics of languages are not always the same, as discussed earlier. The learner of the second language initially tries to approximate the second language with sounds closely resembling them in the native language, resulting in *car* for *cart* or *card, estop* for *stop.* Since some sounds do not exist in the native language that are required in the second language, the learner's ear is not attuned to attending to these differences. In fact, there is a *silent period,* where the second language learner seems to require sound saturation and assimilation. This is normal for both a first and second language learner. The student should not be forced to express the language during this period, but should be given activities that build the child's *receptive* skills. Then, the child could be expected to interact with the language—first chorally (whole group), small group/row, and finally individually. This allows nonthreatening repetition.

The teacher must *slow down* speech in the second language and be prepared to repeat the same phrases/sentences many, many times to effect this sound saturation. Differenes in the language should be identified by the teacher so they can be hyperaccentuated during presentation. For example, endings are generally dropped by second language learners of English since they ae not stressed. This is also true of most basic structure words (of, two, the). If the teacher hyperaccentuates these words during instruction ("Georgie Porgie pudding and pie, kiss—*ed* the girl-*s* and made them cry.") it helps the children identify these differences and model the teacher more closely.

As the child attempts to reproduce the second language, *errors should be expected.* These errors reflect the language differences (unstressed words or word parts will be dropped, sound differences will be only aproximated) not a fault with the child or the technique. Just as young children, for example, use telegraphic language ("Me cookie."), the second language learner will key in on stressed words in an effort to use the language in a meaningful way.

Language, for both the native and second language learner, is both receptive and expressive.

Most native speakers have relatively equivalent receptive and

expressive vocabularies. The second language learner, however understands aurally much more than can be expressed. The teacher must respect the *silent period* and provide experiences where the child can become accustomed to the sounds and cadence of the new language. Understanding can be demonstrated in non-verbal ways: for example, the child can act out nursery rhymes, games, and songs; but the major idea is to make English as familiar as possible, which requires relevance, repetition, and reinforcement—an infinitely higher level than the teacher provides with the monlingual child.

As language is provided for the child, *keep it simple.* Use a few language constructs as possible. Krashen's Monitor Model (1980) indicates the second language learners master only what's just beyond their capabilities; if too many constructs are provided at one time, the student will turn off and cannot learn. Small units of success encourage progress. This practice should *not* consist of imitative drill, but should involve inter*active* meaning.

Language is a dual oral and written band, as contrasted to the single oral-written band encountered by the monolingual student.

The first inclination tends to be translation, since we tend to use waht we know to master the unknown. This has a tendency to slow one's acquisition of a second language—translation tends to be discouraged in second language instruction. One does not have a second language until one moves in that language without thinking about what one says before speaking.

How does such acquisition occur. The sequence of instruction begins with listening. As the instructor provides active, constructive, response-filled *listening* activities, the student gains familiarity with the sounds and structures of the second language and confidence builds to *speak* the language. As speaking is mastered, *reading* can be introduced and finally *writing.* The instructor must recognize that reading and writing must be preceded by oral language development or they will prove ineffective.

Language is both personal and social for a native learner and a second language learner. Meaningful communication and function are equally motivating.

The second language learner, however, identifies more personally with the native language; it would be this language that would be preferred over the second language during significant communication since the second language learner would be limited in interactions requiring the second language. The native language is also associated with the speaker's significant loved ones. As the teacher instructs, an attitude of acceptance, encouragement, and esteem must be projected. Language acquisition is not based on analysis and imitation but on active, meaningful participation. This will not happen if the student senses nonacceptance on the part of the teacher. Lambert (1981) showed that a positive attitude and motivation can compensate for a lack of natural language aptitude. Teacher acceptance behaviors foster this construct.

The social aspects of the language learning environment suggest a functional and useable approach to language learning. Wordlists do not afford this meaning context; grammatical translation do not incorporate functional interaction; analysis of grammatical structure will not foster second language development. Demonstration, clear, slow repetition, paraphrasing, and explanation on the part of the teacher in an interaction which encourages the active participation of the student in meaningful and functional situations tends to foster growth.

Language is dependent on experiences; but these experiences are labelled with first language terms for the LEP child.

Demonstration and oral preparation prior to reading is essential so the language different child can attach English words to first language experiences. Instructors who provide this link recognize that the second language learner brings much more to the learning of the second language than the monolingual child does: experiences are there, cognitive structures are there, and some knowledge of how language works is present. These can be used to speed the acquisition of the second language. A second language is learned much more rapidly because of the presence of the first language.

The difficulty is to provide experiences that will not be translated into the native language. The instructor should attempt to introduce highly motivating activities, such as riddles, poems, jokes, games, songs which are significantly experienced in English so as to be practiced in English. There is a need to separate the languages so they coexist separately and coordinately.

Language is developed in an orderly sequence which is relatively similar with both native and second language learners. (Chun, 1980)

Both learners procede through a *silent period* (Krashen, 1980) where listening predominates and assimilation of the sounds and intonations of the language appear to occur. In young children this tends to be 1-1½ yeras; in second language learners it can be ½-1½ years. Beginning speech tends to be *telegraphic,* only the terms needed for communication are repeated or rememberd. Children do not begin speaking in perfectly formed, grammatically correct sentences. They employ telegraphic speech and linguistic approximations and gradually correct themselves as they try to match their language to models they hear. Language errors, both on the part of the first or second language learner, are not a fault of the child or the technique, but a natural part of language learning. The younger the child, the more accurately a language is learned in the long run; probably because they have more years to learn and they lack the affective filter (Dulay and Burt, 1977) which renders them open to second language learning. The adult learns faster, however, due to intact knowledge of how language works, has social needs to master a language for functional/social reasons, and has cognitive strategies as yet undeveloped in the young child (Chun, 1980; Krashen, Long, and Scarcella, 1979).

How Does Second Language Instruction Affect Learning in Content Areas?

Teachers of second language learners make the mistake of assuming that if a child speaks fairly facile English that this is sufficient for success in learning science, social studies, and other academic areas. Krashen (1980) has suggested that language acquisition differs from language learning. Cummins (1980) underscores this idea by making a distinction between two types (levels) of language proficiency: BICS (Basic Interpersonal Communicaive Skills), which is the language of social interaction and CALP (Cognitive/Academic Language Proficiency) which is related to cognitive levels and concept knowledge (academic language). The second language learner can deal with academic language as a means of acquiring subject area information when the student reaches what Cummins calls the threshold level. Comparing this to Bloom's Taxonomy of cognitive Learning, Krashen's *Acquisition* of language is roughly equivalent to Cummins' *BICS,* which correspond to Bloom's *Knowledge, Comprehension,* and *Application stages.*

Krashen's language Learning is compared with Cummins' *CALP*, which are compared to *Bloom's Analysis, Synthesis, Evaluation* levels. So, acquisition and interpersonal communication equip students to function on a lower-order level of conceptualization; language learning and academic languaging allow the student to operate at a higher-order level.

How Does This Affect Teacher Education?

Since litigation links educational provisions with language different children, all teachers are mandated to gain competence in the adjustments needed for all language-different children. The bilingual research suggests the teacher should:

**Be aware of the components of language and how they impact the learning of a second language student.*

*Expect to provide intensive listening practice prior to speaking, reading, and writing where simplified language is presented via demonstration, paraphrase, and delivered in a slow, measured speed which highlights the language differences in a manner which does not distract communication, but which will call attention to difference.

*Emphasize language learning in context, with a focus on meaning and function and repetition.

*Repetition should not be mindlessly repetitive, but should occur naturally in highly-motivating activities that will entice students to practice (repeat) in English (e.g. songs, poetry, games, stories, rhymes, riddles, jokes).

***Confirm the social, cultural, and affective factors which influence second language development.*

*Foster positive, caring attitudes between various cultures.

*Provide student response in whole group, subgroup form before requiring individual response to lesson threat and assure success.

*Show esteem and acceptance of cultural diversity.

***Adjust content area learning to the second language learner.*

*Recognize that demonstration, example, oral discussion and practice of language forms must always precede subject area learning.

*Tests of linguistic competence reflect social language skills (BICS) not academic language abilities (CALP).

*Higher order functioning is necessary for student's to cope with subject area language stucture and information gthering.

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BY-LAWS OF AMERICAN READING FORUM, INC. A CORPORATION NOT FOR PROFIT

ARTICLE I

Name. This corporation shall be known as AMERICAN READING FORUM, INC.

Offices. The principal office shall be in Sarasota, Florida. The corporation may have offices at such other places as the Board of Directors may, from time to time, appoint for such purposes of the corporation as may be required.

ARTICLE II

Purposes. The general nature, objects and purposes of the corporation shall be to provide services and advice in all forms of educational processes, especialy in the field of reading; to arrange, advertise and conduct an open forum each year, or as often as may be deemed essential, for the discussion of critiquing techniques, methods and research regarding the teaching of reading; to publish selected portions of the discussions, reports and critiques offered at the Forum and to offer these for sale to those persons holding memberships in the Forum as well as to schools, other institutions and other interested persons.

In carrying out its purposes, the corporation shall have and exercise all of the corporate powers enumerated in Section 617.021, Florida Statues, and all other powers consistent therewith and necessary and proper to the operation of this corporation, including all powers implicit in the purposes outlined in this Article or the Articles of Incorporation of the organization.

ARTICLE III

The membership of the corporation shall consist of any person interested in any aspect of the field of reading who shall be admitted to membership upon proper application and payment of required dues.

The initial members shall be as recited in the Articles of Incorporation.

ARTICLE IV

Meeting of Members

Section One - Annual Meeting. The annual meeting of the membership of this corporation shall be held on the 2nd Thursday of December of each year commencing in 1982 at the time

and place to be fixed by the Board of Directors. The newly elected members of the Board of Directors shall take office immediately following the annual meeting.

Section Two - Special Meetings. Special meetings may be held at the call of the President (Chair of the Board) or by written request of a majority of the members of the Board of Directors.

Section Three - Notice. At least ten (10) days notice in writing of each special meeting shall be given to each member of the corporation at its usual place of business or residence.

Section Four - Quorum. A quorum shall be constituted by not less than ten percent (10%) of the members in good standing of the corporation, which members may be present either in person or by proxy. A majority of those present may adjourn the meeting from time to time and place to place.

Section Five - Voting. Every member of the corporation in good standing and whose dues are current shall have the right and be entitled to one (1) vote upon every proposal properly submitted to vote at any meeting of the corporation.

ARTICLE V

Board of Directors

Section One: Number and Term. The affairs of this corporation shall be managed and its corporate powers exercised by a Board of Directors composed of seven (7) members elected by the voting members of this corporation.

The initial Board to be elected at the first annual meeting of the corporation shall be composed of two members elected for one-year terms, three members elected for two-year terms and two members elected for three-year terms. In each succeeding year, elections sall be held to fill the vacancy of any member of the Board whose term has expired and the term of those elected each successive year shall be three-year terms.

Section Two: Qualifications. All members of the Board of Directors shall be members in good standing of the corporation whose dues shall be current.

Section Three: Election. The Board of Directors of the corporation shall be elected by mail ballot. There shall be established a Nominations and Elections Committee which shall propose candiates for election to the Board of Directors. Any member in good standing of the corporation may propose to the Nominations and Elections Committee candidates for the Board of Directors. Any such proposal shall be made in writing to the Nominations and Elections Committee not later than six (6) months prior to the annual meeting of the corporation. Such nominations shall be accompanied by a written brief description of the qualifications of the individual being nominated.

Not less than three (3) months prior to the annual meeting of members, the Nominations and Elections Committee shall distribute by mail to each member in good standing a ballot containing the names of all persons nominated by the Nominations and Elections Committee for election to the Board of Directors. The ballot shall carry a brief description of the qualifications of each nominee. The ballot shall carry a space for write-in candidates. In order to be valid, all ballots must be marked and returned to the Nominations and Elections Committee not less than one (1) month prior to the date of the annual meeting. All properly executed balots shall be tallied by a committee appointed by the Board of Directors. The vote shall be recorded in simple arithmetical count, and the winners shall be judged to be the persons receiving the greatest number of votes, and those persons shall be deemed elected to fill the vacancies then existing at the time of such election.

Section Four: Duties of the Board of Directors. The Board of Directors shall have control and general management of the affairs and business of the corporation and shall determine the policies of the corporation and in general assume the responsibility for the guidance of said policies, including the promoulgation and adoption of such appropriate guidelines and regualtions as they deem necessary and proper to carry out their duties, not inconsistent with these By-Laws, the Articles of Incorporation and the laws of the State of Florida.

Section Five: Directors Meeting. A meeting of the Board of Directors shall be held as soon as possible after the annual election of Directors. A regular meeting of the Board of Directors shall be held prior to the annual meeting of the corporation to conduct the business of the Board of Directors and to prepare an agenda for the annual meeting. The Board may meet either within or without the State of Florida. Additional meetings of the board of Directors may be held at such times and places as may be agreed upon by the majority of the Board.

Section Six: Notice of Meetings. Notice of all meetings of the Board of Directors shall be given by regular mail to each Director at least ten (10) days prior to the date therein designated for such meeting and the business to be brought before the meeting shall be included in such notice.

Section Seven: Quorum. The presence of at least five (5) Directors shall be necessary at any meeting of the Board to constitute a quorum to transact business. The act of a majority of the Directors present at a meeting when a quorum is present shall be the act of the Board of Directors.

Second Eight: Voting. At all meetings of the Board of Directors each Director is to have one (1) vote.

Section Nine: Vacancies. Vacancies occurring in the Board of Directors (between annual meetings of the Board members) shall be filled by action of the remaining Board of Directors. Each person so elected to fill a vacancy shall remain a Director until a successor has been elected by the membership.

Section Ten: Power to Elect Officers. The Board of Directors, at its annual meeting, shall elect the President (Chair of the Board), Vice-President (Chair pro tempore), Secretary and Treasurer. The Board of Directors shall have the power to appoint such other officers, employees or committees, as the Board may deem necessary for the transaction of the business of the corporation. The Board shall have the power to fill any vacancy in any office occurring for any reason whatsoever.

Section Eleven: Removal of Officers and Directors. Any Director or officer may be removed from office or from the Board by the affirmative vote of two-thirds of the full Board of Directors present, in person, at any regular or special meeting called for that purpose whenever in the Board's judgment the best interest of the corporation would be served thereby. Any such Director of officer proposed to be removed shall be entitled to at least thirty (30) days notice in writing by mail of the meeting at which such removal is to be voted upon and shall be entitled to appear before and be heard at such meeting.

Section Twelve: Employees and Agents. The Board of Directors may employ and discharge such employees and agents of the corporation as it may deem necessary. Authority to hire and discharge may be delegated in whole or in part by the Board of Directors to such person or persons as it may designate.

ARTICLE VI

Officers

Section One: Officers. The officers of the Board of Directors shall be the officers of this corporation. They shall consist of the President (Chair of the Board), Vice-President (Chair

pro tempore), Secretary and Treasurer and such other officers and employees as the Board may deem necessary.

Section Two: President (Chair of the Board). The President (Chair of the Board) shall preside at all meetings of the membership of the Board of Directors. The chair shall have and exercise general charge and supervision of the affairs of the corporation and shall do and perform such other duties as may be assigned by the Board of Directors.

Section Three: Vice-President (Chair pro tempore). At the request of the President (Chair of the Board), or in the Chair's absence or disability, the Vice-President (Chair pro tempore) shall perform the duties and possess and exercise the powers of the President (Chair of the Board) and to the extent authorized by law, the Vice-President (Chair pro tempore) shall have such other powers as the Board may determine and shall perform such other duties as may be assigned by the Board of Directors.

Section Four: Secretary. The Secretary shall keep a complete record of all meetings of the corporation and of the Board of Directors and shall have general charge and supervision of the books and records of the corporation. The Secretary shall sign such papers pertaining to the corporation as may be authorized or directed by the Board. The Secretary shall serve all notices required by law and by these By-Laws and shall make a full report, of all matters, and business, pertaining to the office, to the members at the annual meeting. The Secretary shall keep the corporate seal and affix it to all papers requiring a seal. The Secretary shall keep complete membership records. The Secretary shall make all reports required by law and shall perform such other duties as may be required by members of the Board.

Section Five: Treasurer. The Treasurer shall have the custody of all funds, property and securities of the corporation subject to such regulations as may be imposed by the Board of Directors. The Treasurer may be required to give bond for the faithful performance of duties, in such sum and with such surety as the Board of Directors may require. When necessary or proper, the treasurer may endorse on behalf of the corporation for collection checks, notes and other obligations and shall deposit the same to the credit of the corporation at such bank or banks or depository as the Board of Directors may designate. The Treasurer shall sign all rerceipts and vouchers and together with such other officer or officers, if any, as shall be designated by the Board of Directors, the treasurer shall sign all checks of the coporation and bills of exchange and promissory notes issued by the corporation, except in cases where the signing and execution thereof shall be expressly designated by the Board of Directors or by these By-Laws to some other officer or agent of the corporation. The Treasurer shall make such payments as shall be necesary or proper to be made on behalf of the corporation. The Treasurer shall enter regularly on the books of the corporation, to be kept for that purpose, a full and accurate account of all monies and obligations received and paid for, or on account of, the corporation and shall exhibit such books at all reasonable times to any Director of application at the offices of the corporation. The Treasurer shall, in general, perform all duties incident to the office of the Treasurer subject to the control of the Board of Directors. The Treasurer may delegate any duties of a routine or bookkeeping nature to any employee, member or agent without the approval of the Board. The Board may direct the delegation of any duty of the Treasurer to any employee, member or agent.

ARTICLE VII

Fiscal year. The fiscal year of the corporation shall commence on the first day of January and end on the last day of December.

ARTICLE VIII

Seal. The seal of the corporation shall be as follows: "AMERICAN READING FORUM, INC., corporate seal, 1982" suitably arranged around a circular seal as prescribed by law and said seal shall be in the charge of the Secretary.

ARTICLE IX

Amendments to By-Laws. Any proposed amendment in the By-Laws must be submitted to all members in good standing of the corporation by mail at least three (3) months prior to the annual meeting of the corporation. Any proposed change shall be deemed to be accepted by the membership if the same is approved by two-thirds of all members returning a valid ballot regarding the proposed change.

We, the undersigned, do hereby certify that the foregoing By-Laws were adopted by the corporation at a meeting duly held on the 10th day of December, 1983.

AMERICAN READING FORUM, INC.

ATTEST: By_____
President, Bob W. Jerrolds

_____
Secretary, Gordon Gray